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SUMMARIES

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LVVVANFVVGWTPHFILVBALGSTSKYFGIALGSYFCIALGYTRUV
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Biotechnologie De Strasbourg, Boulevard Sebastien Brandt, Illkirch,
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 1154)
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chromosomal assignment, functional expression, pharmacology, and
expression pattern in the central nervous system
Proc. Natl. Acad. Sci. U.S.A. 92 (15), 7006-7010 (1995)
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Mansson,E., Bare,L. and Yang,D.
Isolation of a human kappa opioid receptor cDNA from placenta
Biochem. Biochkys. Res. Commun. 202 (3), 1431-1437 (1994)
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Best Local Similarity 100.0%; Pred. No. 2e-202;
Matches 1154; Conservative 0; Mismatches 0;
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/protein_id="AACS0158.1"
/db_xref="G1:596070"
                                                    mRNA
mRNA,
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(hKOR)
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/codon_start=1
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/gene="hKOR"
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/gene="hKOR"
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	Qy 601 GTCAGGGAAGACGTCCATGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 60 Db 978 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTCC 1037 Qy 661 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTTGACTTCGTGATCCCTGTCCTC 1037 Db 1038 TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC 1097 Qy 721 ATCATCATCGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCTGTTCT 180 Db 1098 ATCATCATCGTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCTGTTCT 1157 Qy 781 GGTTCCCGAGAAAAAACCCTGATGATCACCAGACTGGTCCTGTTTTT 1157 Db 1158 GGTTCCCGAGAAAAAAACGCAACTGGTGATGATCACAGACTGGTCCTGTTGTTGTGTGGTGTT 840 1158 GGTTCCCGAGAAAAAACGCCAACCTGCGTAACACCAGACTGGTCCTGGTGGTGTTGTTGTTGTTGTTGTTGTTGTTGT	841 GCAGTCTTCGTCGTCGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900 1218 GCAGTCTTCGTCGTCGTCGGACTCCCATTCACTTATCTTCTGGTGGAGGCTCTGGGG 127 901 AGCACCTCCCACAGCACAGCTGCTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 127 901 AGCACCTCCCACAGCACAGCTGTCTCCCAGCTATTACTTCTGCATCGCTTAGGCTAT 960 1278 AGCACCTCCCACAGCAGCTGCTCTCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 133 961 ACCAACAGTAGCCTGAATCCCATTCTCTACAGCTGTTCTTCATGAAAACTTCAAGGCGTGT 102 1338 ACCAACAGTAGCCTGAATCCCATTCTCTACACGCGTGT 1139	Qy 1021 TTCCGGGACTTCCCACTGAGATGAGATGGAGAGGACTGACAGAGTC 1080 HINGHINININININININININININININININININI	RESULT 3 AR270854 LOCUS LOCUS DETINITION Sequence 1417 from patent US 6500938. ARCIESSION AR270854.1 GI:29702088 KEYWORDS ONGANISM UNKnown. ORGANISM UNknown. Unclassified. URassified. Unclassified. TITLE Composition for the detection of signaling pathway gene expression
HUMOPRKIB LOCUS HUMOPRKIB LOCUS HOMO sapiens (clone d2-115) kappa opioid receptor (OFRKI) mRNA, complete cds. ACCESSION L37362. MINASION L37362. HOMO sapiens (human) OPRKI gene; kappa opioid receptor; opioid receptor. SOURCE HOMO sapiens (human) ORGANISM Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. REFERENCE (bases 1 to 1604) AUTHORS Liu-Chen,L., Y. TITLE LIU-Chen,L., Y. TITLE Cloning of a human .kappa. opioid receptor from the brain Original source text: Homo sapiens (clone d2-115) (tissue library: genomic in lambda dash and cNA, in lambda ZAPII) fetus brain cDNA	to mRNA. Location/Qualifiers 1. 1604 Organism="Homo sapiens" Mol Lype="mRNA" Map="8q11.2" Clone="d2-115" /clone="d2-115" /tissue type="brain" /dev stage="brain" /tissue lib="genomic in lambda dash and cDNA in lambda ZAPII" Gene="OPRKI" Gene="OPRKI"	/codon_start=1 /podouc_l=	Query Match 100.0%; Score 1154; DB 9; Length 1604; Best Local Similarity 100.0%; Pred. No. 2e-202; 0; Indels 0; Gaps 0; QY 1 ATGGACTCCCCGATCCAGATCTTCGGGGGGGCCGGGGCCCTACCTGGGCCCCGAGGGC 60 Db 378 ATGGACTCCCCGATCCAGATCTTCGGGGGGGCCGGGGCCCTACCTGGGCCCCGAGGGCC 437 QY 61 TGCCTGCCCCCCAACAGGAGGGCCTGGTTTCCCGGCTGGGCCGAGCCGAACGGCCAACAGGAGGCC 120 Db 438 TGCCTGCCCCCCAACAGGAGGCCTGGTTTCCCGGCTGGCT	Oy 121 AGGGCGGCTCGGAGGACGCGGCACATCTCCCCGGCCATCCCGGTC 180 by AGCGCGGCTCGGAGGACGCGCAGCTGGAGCCGCGCATCTCCCCGGCCATCCCGGTC 180 con 181 ATCATCACGGCGGTCTACTCGTTGGTGGGCTTGGTGGGCAACTCGCGGTC 557 con 182 ATCATCACGGCGGTCTACTCGTTGGTGGGCTTGGTGGGCAACTCGCTGGTC 617 con 241 ATCATCGTGATCATCCGAAGATGAGGCTTGGTGGGCAACTCGCTGGTC 617 con 241 ATGTTCGTGATCATCGAAGATGAAGACGAACCAACTTTACATTTAAC 300 con 1

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Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
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                                                974 ACCAACAGTAGCCTGAATCCCCATTCTCACGCCTTTCTTGATGAAAACTTCAAGCGGTGT
                                                                                              TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Burmer,G.C., Roush,C.L. and Brown,J.P. Antigenic peptides, such as for G protein-coupled receptors (GPCRs), antibodies thereto, and systems for identifying such antigenic peptides
Patent: WO 02061087-A 147 08-AUG-2002;
Lifespan Biosciences, Inc. (US)
Location/Qualifiers
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/mol_type="unassigned DNA"
/db_xref="taxon:9606"
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/organism="unknown"
/mol_type="genomic DNA"
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Matches 1149; Conservative 0; Mismatches
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Mansson, E.

Direct Submission
Submitted (20-JUN-1994) Erik Mansson, Molecular Biology, Ohmeda,
PPD, 100 Monatain Avenue, Murray Hill, NJ 07974, USA
Location/Qualifiers
1. 1182
                                                                                                                                                                               TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC
                                                                                                                     CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA
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                                       ACCAACAGTAGCCTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGCGGTGT
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Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleosto
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1182)
Mansson, E., Bare, L. and Yang, D.
1solation of a human kappa opioid receptor cDNA from placenta
Biochem. Biophys. Res. Commun. 202 (3), 1431-1437 (1994)
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Human kappa opioid receptor (hKOR) mENA, complete cds.
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U11053.1 GI:532059
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larity 99.6%; Pred. No. 6e-201;
Conservative 0; Mismatches 5; Indels 0
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1. 1182

gene="hKOR"

14. 1156

/gene="hKOR"

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TGACTAGTCGTGGA 1167
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BDQLEBAHASPALYTWINGAVGAVCHVGLVGNSLVMFVILTRYTKMKTATNIYITHLA
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LVVVANCHPWITHILVENGGSTSRVATALSSYYFCIALGYTRAV
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Other publication FR 2722209 960112.
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    note="unnamed protein product"

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A48343.
A48343.1 GI:2302133
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protein-coupled receptor activated superiorly by synthetic ligand
Patent: US 6518480-A i 11-FEB-2003;
Location/Qualifiers
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99.0%; Score 1143; DB 6; L
Best Local Similarity 100.0%; Pred. No. 2.2e-200;
Matches 1143; Conservative 0; Mismatches 0;
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AR281679
AR281679.1 GI:29717434
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Conklin, B.R.
                                                                                                                                                                                            Unclassified.
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                               Unclassified.

1 (bases 1 to 1275)
Conklin,B.R.
Conklin,B.R.
Selective target cell activation by expression of a G
protein-coupled receptor activated superiorly by synthetic
Patent: US 6518480-A 5 11-FEB-2003;
Location/Qualifiers
                                                                                                                                                                                                                                                                                               6
                                                                                                                                                                                                                                                              Length 1275;
                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                            Score 1001; DB 6;
Pred. No. 3e-174;
0; Mismatches 70;
                                                                                                                                                                                                         DNA"
                                                                                                                                                                    1. .1275
/organism="unknown"
/wol_type="genomic"
                                                                                                                                                                                                                                                          Query Match 86.7%;
Best Local Similarity 93.1%;
Matches 1062; Conservative (
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Unknown
                       Unknown
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bb 413 TGGCTTTGGCGTTTTGTGCAGTGCCTTTCGAGGTACGGTCTACTTGA 472 cy 362 TGAATTCCTGGCCTTTTGGGGTGTGCTGCAGGTTACTAGAGTACGGTCTACTTGAGTACTTGAGTACTTGAGTACTTGAGTACTTGAGTACTTGAGTACTTGAGTACTTGAGTACTTGAGTACTTGAGTAGTACTTGAGTAGTACTTGAGTACTTGAGTACTTGAGTACTGAGTACTACTACA 421 cy 422 ACATGTTCACCAGCATCTTCACCTTGAGAGTTGTCATTTCATTGAGTACTACTACA 532 cy 422 ACATGTTCACCAGCATCTTCACCTTGACAGAGTTGACTTGACTTGCGTGT 481 bb 533 ACATGTTTACCAGCATCTTCACCTTGACATGAGTGAGACCGTTACATTGCCGTGT 592 cy 482 GCCACCCGGTGAAGGCTTTGGACATGACGATGAGTGATCATCATTACATTGCCGTGT 592 cy 482 GCCACCGGTGAAGGCTTTGGACTTCCGCACACGTTACATTGCCGTGT 592 cy 602 GCACCGGTGAAAGGCTTTGGACTTCTGAAGCAAAGATCATCAACATCT 652 cy 603 GCCACCTGTGAAAGCTTTGGATTTCCGCAAAAGATCATTGAACATCT 652 cy 604 GCATCTGGCTACTGTTGGATTTCTGCAATAGTCCTTGGAGTGATCATCCT 661 bb 713 CCGGGATGATGATGATGATGATTCCCCAGTGATGATGATCTCCT 661 ccGGGATGATGAGTATTGAGTACTTTTGCAGTTCCTTGGAGTGATCCTCTCT 763 ccGGGGATGATAGAAACTTGAGTACTTTTGCCTTTTGCTTTTGCTTCTTTTGCTTCTTTTTTTT	Qy 722 TGATCATCGTCTACACCCTGATGATCCTGCGTCTCCAAGAGCGTCCGGCTCCTTTCTG 781 Db 824 TCATCATCGTCTGCTACACCCTGATGATCCTCCAAGAGCGTCCGGCTCTTTCTG 883 Oy 782 GGTCCCGAGAGAACATCGCACCTGGTCACTGGTCCTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGG	RESULT 16 CPU04092 LOCUS DEPINITION Cavia porcellus Hartley kappa opioid receptor mRNA, complete cds. DEFINITION Cavia porcellus Hartley kappa opioid receptor mRNA, complete cds. ACCESSION U04092.1 GI:476106 KEYWORDS Cavia porcellus (domestic guinea pig) CAVIA porcellus CAVIA porcellus ELKARYOGA; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia. REFERENCE 1 (bases 1 to 1733) AUTHORS Xie,G.X., Meng,F., Mansour,A., Thompson,R.C., Hoversten,M.T.,
Db 884 GCTCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCGTGGTGG 943 Qy 842 CAGTCTTCGTCGTCGACTCCCATTCACATATTCATCCTGGTGGAGGTTGGA 901 Db 944 CAGTCTTCGTCGTCGTCGACTTCACATTCATCCTGGTGGAGGCTCTGGGA 1003 Qy 902 GCACCTCCCCACACACCTGCTCTCTCTCTTCTCTTCTTCTTCTTGCATTCGCTTTTA 961 Db 1004 GCACCTCCCCACACACTGCTCTCTCTCTCTTCTTCTTCTTCTTCTTTA 1063 Qy 902 GCACCTCCCACACACTGCTTCTCTCTCTTCTTCTTCTTCTTCTTTA 1063 Qy 902 GCACCTCCCACACACTCTCTCTCTCTCTTCTTCTTCTTCTT	RESULT 15	122 GCGCCGGCTCGGAGGACGCCGCGCCATCTCCCCGGCCATCCCGGTCA 181 182 184 18

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Rattus norvegicus ROR-D mRNA for opioid receptor, complete cds. D16534
D16534.1 G1:409390
G-protein coupled receptor.
Rattus norvegicus (Norway rat)
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Nishi,M., Takeshima,H., Fukuda,K., Kato,S. and Mori,K.
cDNA cloning and pharmacological characterization of an op
receptor with high affinities for kappa-subtype-selective
FERS Lett. 330 (1), 77-80 (1993)
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                  GIGIGCCACCCCGIGAAGGCTITGGACTICCGCACACCCT
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Submitted (19-JUN-1993) Hiroshi
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Takeshima, H.
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RATRORD
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
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AUTHORS
TITLE
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DDDGDEPAHISPALTAYYSOVYCHVGLOSISUMRYLIRYTRMKTATHIYITENLA
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CHPVKALDFRTPLKAKIINICIWLLSSSVGISAIILGGTKVREDVDIIECSLQFPDDD
SYSWDLPMKICVFVFARVIPTULIIVOYTLMILEKKSVRLESGSREKDRULRRITRLV
LVVVANFIICHTPILMSAGSTSSTYFSTSTALSSYYFCIALGYTRENTRLY
ENVRANFIICHTPILMSAGSTSSTVRNITVQDPAYMRNVDGVNKFV"
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Zina Pitcher Place, Ann
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Goldstein, A., Watson, S.J. and Akil, H.
Primary structure and functional expression of a guinea opioid (dynorphin) receptor
Proc. Natl. Acad. Sci. U.S.A. 91 (9), 3779-3783 (1994) 94224825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                               Direct Submission
Submitted (07-DEC-1993) Guo-xi Xie, Mental
Institute, The University of Michigan, 205
Arbor, MI 48109-0720, USA
Location/Qualifiers
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Pred. No. 1.4e-161;
0; Mismatches 103;
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|db_xref="GI:476107"
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/function="G protein-coupled shigh-affinity to dynorphin A"
/codon_startel
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mol_type="mRNA"
/strain="Hartley"
/db_xref="taxon:10141"
/clone="gpK1OR"
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/tissue_type="brain"
/clone_lib="pME18s"
/dev_stage="adult"
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ilarity 90.6%;
Conservative
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Xie, G.
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Rattus norvegicus (Norway rat)
Rattus norvegicus
Exattus corvegicus
Exattus corvegicus; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
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                                    649 GTCAGGGAAGAIGISGAIGTCAITGAAIGCTCCTIGCAGTITTCCTGAIGAIGATGAATAITCC
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       GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC
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Molecular cloning of a rat kappa opioid receptor reveals similarities to the mu and delta opioid receptors
Biochem J. 295 (Pt 3), 625-628 (1993)
                                                                                                     TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCC
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/product="kappa opicid receptor"
/db_xref="GI:409237"
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/product=="opioid receptor"
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Nishinokyo-Kwahnara-cho, Kyoto 604, Japan (Tel:81-75-823-1208,
Pax:81-75-811-8186)
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                                                                                                                        /organism="Rattus norvegicus"
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LVVVANFIICHTFILVEALGSTENSTANGSSYFFCIALGYTNSSLNPVLYAFLD
ENFKRCFRDFCFFIKMRMERQSTNRVRNTVQDPASMRDVGGMNKPV"
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                                                                                                                                                                                              Length 1358;
                                                                                                                                                                                           Query Match

19.2%; Score 914; DB 10; Length 1

Best Local Similarity 87.0%; Pred. No. 3.1e-158;

Matches 1004; Conservative 0; Mismatches 150; Indels
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Submitted (05-AUG-1993) Fan Meng, Mental Health Research Institute,
University of Michigan, 205 Zina Pitcher Place, Ann Arbor, Michigan
48109, USA
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Rattus norvegicus
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae,
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Mengy., X.L., Goldstein, A.,
Marson, S.J. and Akil, H.
Cloning and pharmacological characterization of a rat kappa
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257. . 1399
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2 (bases 1 to 4742)
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TICCGGGACTICTGCTITCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC 1080
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LVVVANPTITTUMPPLISTILNCAFALISSTSFFCIALGYTNSSLNPVLYAFLD
BNFKRCFRDFCFPIKMRMERQSTNRVRNTVQDPASMRDVGGMNKFV"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus sp.
Bukaryca, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bukaryca; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (Dasea 1 to 1288)
Belkowski,S.M., Zhu,J., Liu-Chen,L.Y., Eisenstein,T.K., Adler,M.W.
and Rogers,T.M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              156
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                                                         1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA
                                                                                                                                                                              1337 AGAAACACAGTTCAGGATCCTGCTTCCATGAGGGATGTGGGGTGGGATGAATAAGCCAGTA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GenBank staff at the National Library of Medicine created this entry [NCBI gibbsq 175931] from the original journal article. This sequence comes from Fig. 3. longer of two transcripts.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Gaps
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/mol_type="mRNA"
/db.zref="taxon:10095"
97. _1239
/note="This sequence comes from Fig.
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86.8%; Pred. No. 1.2e-157;
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Pred. No. 6e-158;
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Matches 1003; Conservative
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	ATGGAGTCCCCCATTCAGATCTTCCGAGGAGTCCAGGCCCTACCTGCTCTCCCCAGTGCT TGCCTGCCCCCCAACAGCAGCGCCTGGTTTCCCGGCTGGCCGACGACAGCAACAGCAACGACAGCCCGACAGCCCGACAGCCCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCAACAGCAACAA	TGCCTTCTCCCCAACAGAGCTCTTGGTTCCCCAACTGGGCAGAATCCGACAGTAATGGC AGCGCGGCTCGGAGGAGCTGGAGCCGCGCGCAACTCCCCGGCCATCCCGGTC	AGTGTGGGCTCAGAGGATCAGCAGCTGGAGTCCGCGCACATCTCTCCGGCCATCCCTGTT 3 ATCATCATCACGGGGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCCATCGCTGGTC	4 ATCATCACCGCTGTGTACTGTGTGGTATTTGTGGTGGGGGTTAGTGGGGCAATTCTGTGGTG 1 ATGTTCGTGATCATCGGATACACAAAGATGAAGACAACAACAACAACATTTACATATTTAAC 1 TTTTTCTCTGTGTTACATAAAAATGAAGAACAACAACAACAACATTTACATATTTAAC	424 AIGITIGICAICCAIACAGAGAIGAAGACGCAACCAACCAACTAAAITIAAC 483 301 CIGGCITIGGCAGAIGCITIAGITACIACAACCAAGCCTITCAGAGIACGGICIACTAG 360 404	ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTCCATTGATTACTAC 42	AIGAAITETTGGCTTTTGGGGTGTGCTAIGCAAGAITGTCATTCCATTGCATTG	481 TGCCACCCGTGAAGGCTTTGACCACCACCACCACGCTGAGGCGCTGCACATTGCTGGG 663 481 TGCCACCCCGTGAAGGCTTTGGACTTCCGCACCCTTGAAGGCAAAGATCATCAATATC 540	TOCATCHGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC	1 IGGIGGGATCTTCATGAAGATCTGCTTCATTAGCTTTGCCTTCGTGATCCTCCTTCTCTCTC	721 ATCATCATCGTCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCT 780	781 GGCTCCCGAGAGAAAGATCGCAACCTGCGTGGATCACCAGACTGGTCGTGGTGGTG 840	841 GCAGTCTTCGTCGTCTGCACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900	901 AGCACCTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT 960	961 ACCAACAGTAGCCTGAATCCCATTCTTACGCCTTTCTTGATGAAACTTCAAGGGTGT 1020	1021 TTCCGGGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC 1080	1081 CGAAATACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGGATGAATAAACCAGTA 1140
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Bell,G.I., Reisine,T. and Yasuda,K.
Nucleic acids encoding kappa opioid
Patent: US 6319686-A 1 20-NOV-2001;
Location/Qualifiers
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Best Local Similarity 86.8%;
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                                                                                                                                             Unknown.
Unknown.
Unclassified.
3 I (bases 1 to 1410)
S Bell,G.I., Reisine,T. and Yasuda,K.
Polynucleotides encoding KAPPA opiod rer
AL Patent: US 6096513.A 1 01-AUG-2000,
Location/Qualifiers

    1410
    organism="unknown"
    mol_type="unassigned DNA"

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AR105149
AR105149.1 GI:12818746
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Db 366 ATCATCACCGCTGTCTACTCTGTGGTATTTGTGGTGGGCTTAGTGGGCAATTCTCTGTGGTC 42 Ov 241 ATGTTCGTGATCATCCGATACACAAAGATGAAGAACGAAC	1021 TICCGGGACTICTGCTTTCCACTGAAGATGAGGAGGGGGGGGGG	Sy Ph
DD 500 MOIGIGGGCTICHGANGGAICAGCAGGGGCGCGCGCACAICICTCCGGGCCAICCCTGTT 36 QY 181 AICATCACGGCGTCTACTCCGTAGTGTTCGTCGTGGGGCTTGGTGGGCAACTCGCTGGTTG	46 ACCAACAGCAGCCTGAATCCTGTATGCGTTTCTGGATGAAACTTCAAGGGGTGT	. qa
121 AGGCCGGCTCGGAGGAGCGCGCAGCTGGAGCCCGGCACATCTCCCCGGCCATCCCGGGCCATCCCGGGCTC	1086 AGCACCTCCCACAGCACAGCTGCCCTCTCCAGCTATTATTTCTGTATTGCCTTTGGGTTAT 1145	අ දි
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Db 186 AIGGAGTCCCCCAITCAGAICTTCCGAGGAGTAICCAGGCCCTACCTGCTCTCCCAGTGCT 24 Qy 61 IGCCTGCCCCAACAGCAGCGCCTGGTTTCCCGGCTGGGCGGAGCCCGACAAGCAAG	1026 GCAGTCTTCATCATTGACACCCCCATTCATCTTATCCTGGTGGAGGCTCTGGGG 900	3 8
Qy 1 AIGGACICCCGAICCAGAICIICCGCGGGGAGCCGGGCCCIACCIGCGCCCCGAGCGCC 60	8	qa
Best Local Similarity 86.8%; Pred. No. 1.2e-157; Matches 1002; Conservative 0; Mismatches 152; I	81 GGCTCCGAGAGAAGATCGGAACCTGGTAGGATCACCAGACTGGTCGTGGTGGTG	oy g
	721 ATCATCATCGTGTGTGTGCTGCTGATGATCTGCGTCTCAGAGAGCGTCCGGTCTTTT 780	QV Db
LADALVITIMETGSAVILMUNSMETGDVLCKIVISIDIRIMKTSLETLIMMSVDRYL CHPVRALDERTPLKAKIINICIMLASSVGISAIVLGGTKVREDVDVIECSLQ?PD YSWWDLFMKICYFPRAVIPVLIIIVCYTLMIIRLKGYRLLSGSREKDRNIRRITR LVVVAVFIICWTPIHIPILVBALGSTSHSTAALSSYYFCIALGYTNSSLNPVLYAF	661 IGGIGGACCICTICAIGAAGAICIGCGICTICAICTITGCCTICGIGAICCCTGICTC 720	QY Dp
/ provein _ac="A4AA5454.1" /db_xref="G1="A8AP40" /translation="A8AP40"FRGDPQFTCSPSACLLPNSSSWFPNWAESDSNGSV EDQQLESAHISPAIPVIITAVYSVVFVVGLVGNSLVMFVIIRYTKMKTATNIYIFN	601 GTCAGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGACTACTCC 660	P G
/tissue_lib="Clontech #ML1036a" 186. 1328 /codon_start=1 /product="kappa opioid_receptor"	541 IGCATCTGGCTGTCGTCATCTGTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600 	QY Db
/organism="Mus musculus" /mol_type="mRNA" /db_xref="taxon:10090" /tissue_type="brain"	481 TGCCACCCCTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540	QY Db
COMMENT Original Source text: Mus musculus (library: Clontech #ML1036a) FEATURES Location/Qualifiers Source 11410	421 AACATGTTCACCAGCATCTTCACCTTGACCATGAGGGTGGACCGCTACATTGCCGTG 480 	S S
receptors from mouse brain AL Proc. Natl. Acad. Sci. U.S.A. 90 (14), 6736-6740 (1993 NE 93342064 ED 8393575	361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC 420	SP GS
AUTHORS Yas dar K. Raynor, K., Kong, H., Breder, C.D., Takeda, J., Reisine, T and Bell, G.I. TITLE Cloning and functional comparison of kappa and delta opioid	301 CTGGCTTTGGCAGATGCTTTAGTTACTACAACCATGCCCTTTCAGAGTACGGTCTACTTG 360 	Š A
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_	366 ATCATCACCGCTGTCTGTGTGTTGTTGTGTGGGGCTTAGTGGGCAATTCTCTGGTC 425	අ _ධ ර
DEFINITION Mouse kappa opioid receptor mRNA, complete cds. ACCESSION 111065	181 ATCATCACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGCAACTCGCTGGTC 240	ò

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IDIOIFRGDPGPTCSPSACLLPNSSSWFPNWAESDSNGSVGS
TATAYSVYFVFVGLVORSLVMFVTIRTTKMKTATHIYITHLA
TAMSSWFEGDVLCKTVISIDYTMFTSIPTTMMSVDFYIAV
INICIWLLASSVGISALVLGGTKVREDVDVIECSLQFPDDE
TYPTJIITVCYTLMITHLKSYRLEGGSREKORNLRRITKLVV
TILVBALGSTFSHSTAALSSYYFCIALGYTNSSLNPVLYAFLD
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Location/Qualifiers

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 606 AACATGTTTACCAGCATATTCACCTTGACCATGATGAGTGTGGACGGCTACATTGCTGTG 665
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FEATURES /product='rat kappa-opioid receptor'. FEATURES 1. 2481 Source /organism="Rattus sp." /mol_type="genomic RRA" /db_xref="taxon:10118"	Query Match Best Local S Matches 1002	1 ATGGATCCCGATCCAGATCTTCGCGGGGAGCCGGGCCCTACTGCGCCCCGAGCGCC 60 111 ATGGACTCCCCCATCCAGATTTTCCGGGAGAGCCAGGCCTGTGCTGTGTCCCAGGGCC 7 17 112 ATGGACTCCCCCAACAGGTTTTCCGGGAGAGCCAGGCCTGTGTGTG	Db	9y 181 ATCATCAGGCGGTCTACTCCGTAGTGTTCGTCGGGGCTTGGTGGGCAACTCGCTGGTC 240 291 ATCATCACGCTGTTCTGTGGTGTTTGTGGTGGTTAGTGGGCAATTCCCTGGTC 350	Qy 241 ATGTTCGTGATCATCCGATACACAAGATGAAGACGAACCATTACATATTAAC 300 1	QY 301 CIGGCITINGCAGANGCITIAGTIACIACAACCANGCCCTTICAGAGNACGACTACTTG 360 DD 411 CIGGCITIGGCAGANGCITINGCTAACCACTANGCCCTTCAGAGNGCTGCTGCTACTAGCTGCTATACTACCACTANGCCCTTCAGAGNGTGCTTTGCTT	361 ATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCATTGATTACTAC	Qy 421 AACAIGITCACCAGCATCTICACCTICAACCATGAGGGGGGGACCGCTACATTGCCGTG 480	OY 481 TGCCACCCGTGAAGGCTTTGGACTTCCGCACACCCTTGAAGGCAAAGATCATCAATATC 540	QY 541 TGCATCTGGCTGCTGTCGTCGTTGGCATCTCTGCAATAGTCCTTGGAGGCACCAAA 600	Qy 601 GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC 660-	Qy 661 IGGIGGGACCTCTTCAIGAAGAICTGCGTCTTCAICTTTGCCTTCGTGAICCCTGTCTC 720	OY 721 AICAICATCHGCTACACCCTGATGATCCTGCGGTCTCAAGAGCGTCCGGGTCCTTTCT 780	OY 781 GGCTCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTGGTGGTGGTG 840	841 GCAGTCTTCGTCGTCGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGG 900	DB 951 GLAGICTICATCHGTGGACCCCCTTCCACATCTTATCCTGGTCGATCGATCGA
	OY 721 ATCATCATCGTTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCTTCT 780	Db 1003 GCTCTCGAGAGACCGAAATCTCGCCGGATCACCAGGTGCTGTTTTTTTT	901 AGCACCTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATCGCCTTAGGCTAT	OY 591 ACCARAGEGERATIC TOTAL CONTROLL TO THE TOTAL CASE OF THE TOTAL CONTROLL TO THE TOTAL CONTROLL TO THE TOTAL CONTROLL TO THE TOTAL CONTROLL CON		1303 AGAAACACAGTTCAGGATCCTGCTTCCATGAGGGATGTGGGGATGAGATAAGCCAGTA	Oy 1141 TGACTAGTCGTGGA 1154 Db 1363 TGACTAGTCATGGA 1376	RESULT 27 E08874 LOCUS E08874 LOCUS E08874 DATE 2481 bp RNA linear PAT 29-SEP-1997		ORGANISM Rattus sp. Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae,	REFERENCE 1 (Dases 1 to 2481) AUTHORS Sato, K. TITLE RECEPTOR PROTEIN, ITS PRODUCTION AND USE THEREOF	TAKEDA CHEM IND LTD OS Rattus Sp. (rat) PN UP 1995070191-A/1	PF 30-JUL-1993 JP 1993190261 PR 09-JUL-1993 JP 93P 170591 PI SATO KIMIMICHI PC COTKI 4/47 C12012/1/21 C12011/02//A61888/00 A61888/00	(C12N1/21, C12R1:19), (C12P21/02, C12R1:19), C07K99:00, Standedness: Double, Forology Linear	Key	_

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               Length 2481,
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                 DB 10;
             Score 910.8; DB 10;
Pred. No. 1.2e-157;
0; Mismatches 152;
                 78.9%;
86.8%;
                 Query Match
Best Local Similarity 86.8
Matches 1002; Conservative
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AGCACCTCTCACAGCAGCTGTCCTCTGTAGCTATTACTTCTGCATTGCCTTGGGTTAT 1070
                                                                                                                 TICCGGGACTICTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTC 1080
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Minami, M., Toya, T., Katao, Y., Maekawa, K., Nakamura, S., Onogi, T.,
Kaneko, S. and Satch, M.
Cloning and expression of a cDNA for the rat kappa-opioid receptor
PEBS Lett. 329 (3), 291-295 (1993)
8103466
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Direct Submission
Submitted (21-701-1993) Masabumi Minami, Faculty of pharmaceutical
Submitted (21-701-1993) Masabumi Minami, Faculty of pharmaceutical
Sciences, Kyoto University, Department of Pharmacology, Kyoto,
Kyoto 606-01, Japan (E-mail:f51550@sakura.kudpc.kyoto-u.ac.jp,
Tel:075-753-4546, Fax:075-753-4586)
Submitted (21-701-1993) to DDBJ by:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rattus norvegicus
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae,
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kappa opioid receptor.
Rattus norvegicus (Norway rat)
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Department of Pharmacology
Faculty of pharmaceutical
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TGACTAGTCATGGA 1264
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Kyoto, Kyoto 606-01
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REFERENCE
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   TCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCGTGGTGGTGGTGGTGGT
                    GTCTTCGTCGTCGGCTGGACTCCCATTCACATTTCATCCTGGTGGAGGCTCTGGGGAGC
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Bell,G.I., Reisine,T. and Yasuda,K.
Nucleic acids encoding kappa opioid receptors
Patent: US 6319686-A 11 20-NOV-2001,
Location/Qualifiers
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Pred. No. 2.3e-150;
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/organism="unknown"
/mol_type="unassigned DNA"
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ARI78406.1 GI:20219544
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Bell,G.I., Reisine,T. and Yasuda,K.
Polynucleotidese encoding KAPPA opiod receptors
Patent: US 6096513-A 11 01-AUG-2000;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 871.2; DB 6;
Pred. No. 2.3e-150;
0; Mismatches 19;
                                                                                                                                                                                                                          DNA
                                                                                                                                                                                                                  Sequence 11 from patent US 6096513.
AR105156

    .1000
/organism="unknown"
/mol_type="unassigned DNA"

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Best Local Similarity 97.6%;
Matches 892; Conservative 0
                                                                                                                                TGACTAGTCGTGGA 1154
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Unclassified.
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/translation="VYLANGNPFGDVLCKIVISIDYYNMFTSIFTLTMMSVDRYIAVC HPVXALDFRTPLKAKIINICUMILSSYOIGALTVLGGTKVREDVDVTECSLOGPDDDV SWMDLFVKLUVFVFAFVIIDYLIIVCYTLMILBLKSVRLLSGSREKDRNLRRITRLVL KVVAVEVVCWTPIHFEILVELGSTBHSTAALSSYYFCIALGYTNSENNPILYAFLDE NFKRCFRDFCFPVKVRMERQSTSRIKVTVQDPAY"
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                                                                                                 Score 633.8; DB 4;
Pred. No. 1.2e-106;
0; Mismatches 77;
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Sus scrofa kappa opioid
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Local Similarity 89.8%;
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                                                                               AGGGAAGGTGTCGATGTCATTGAGTGCTGCTTGCAGTTCCCAGATGATGACTACTCCTGG
                                                                                                                                    TGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTCATC
                                                                                                                                                                                           TCCCGAGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCCTGGTGGTGGTGGTGGCA
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                                                             AGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCCAGATGATGACTACTCCTGG
                                                                                                                     TGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kappa opioid receptor; opiate.

Sus scrofa (pig)
Sus scrofa
Sus scrofa
Sus scrofa
Sus scrofa
Sus scrofa

Rusaryota, Metazoa; Chordata; Craniata; Vertebrata; Eutel
Mammalia; Butheria; Cetartiodactyla; Suina; Suidae; Sus.

(bases 1 to 757)
Osinski,M.A., Brown,D.R., Murtaugh,M.P. and Pampusch,M.P.

Identification of a porcine kappa opioid receptor
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MAM
                                                                                                                                                                            ATCATCGTCTGCTACACCCTGATGATCCTGCGTCTCAAGAGCGTCCGGCT
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mRNA, partial cds
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/produce=nkappa opioid receptor"
/protein_id="AAL14312_1"
/db_xref="GI:17028067"
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1. 757

Organism="Sus scrofa"

/organism="Eaxon:9823"

/db_xref="taxon:9823"

/tissue_type="small inte
/dev_arge="juvenile"

<1. . 757

/note="putative"
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2018 scrofa kappa opioid receptor
L49437.1 GI:17028066
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S Birren, B., Linton, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Barata, N., Bastien, V., Beder, F., Boguslavkiy, L., Burkett, G., Campopiano, A., Castle, A., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Ferreira, P., Fitzhugh, W. Gago, D., Galagan, J., Gardyna, S., Ginde, S., Goyette, M., Crand, P., Landers, T., Lehoczky, J., Levine, R., Lieu, C., Liu, G., Macdonald, P., Marquis, M., McCarthy, M., Oliver, J., Murphy, T., Naylor, J., Norman, C. H., O'Connor, T., O'Donnell, P., O'Neil, D., Olivar, T., Norman, C., Roback, M., Riley, R., Spauc, P., Rothman, D., Roy, A., Santos, R., Schauce, S., Severy, P., Sougnaz, C., Spencer, B., Stange, Phomann, N., Stojanovic, M., Strauss, N., Subramanian, A., Talamas, J., Tesfaye, S., Theodore, J., Wilson, B., Wu, X., Wyman, D., Ye, W.J., Young, G., Zainoun, J., Simmer, A., and Zody, M., Targilio, J., Young, G., Zainoun, J., Schims, S., Shands, S.,
                                                                                                                                                                                                                                                                                                                                                                                             179356 bp DNA linear HTG 15-JAN-2001
Homo sapiens chromosome 8 clone RP11-911H4 map 8, WORKING DRAFT
AC083844
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1 (Dases I to 179356)
Birren, B., Linton, L., Nusbaum, C. and Lander, E.
Homo sapiens chromosome 8, clone RP11-911H4
      AGCACGCCCCTCTCCAGCTACTTCTCTGTATCGCCTTACACCAACACAGCAGC
                                                                                               973 CTGAATCCCATTCTCTACGCCTTTCTTGATGAAACTTCAAGCGGTGTTTCCGGGACTTC
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Center clone name: 11134

Center clone name: 11134

Center clone name: 11134

Sequencing vector: Plasmid; n/a; 100% of reads
Assembly program: Phrap; version 0 960731

Consensus quality: 178471 bases at least Q40

Consensus quality: 179101 bases at least Q30

Consensus quality: 179101 bases at least Q20

Insert size: 182000; agarose-fp

Insert size: 182000; agarose-fp

Insert size: 179156; sum-of-contigs
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AC083844.2 GI:12229355
HTG; WHGS PHASE1; HTGS_DRAFT.
Homo sapiens (human)
Homo sapiens
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                                                                                                                                                                                                                                                                                                              Direct Submission
Submitted (01-UUL-1997) Veterinary Pathobiology, University of
Minnesota, 1971 Commonwealth Ave, 205 Veterinary Science, St. Paul,
MN 55108, USA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    672
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      Euteleostomi;
Sus.
                                                                                                                                                    Distribution of delta and kappa opioid receptor mRNA in porcine immune tissues inpublished 2 (bases 1 to 715)
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                                                                                            Pampusch, M.S., Zilliox, M., Osinski, M.A., Brown, D.R. and
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Eukaryota, Metazoa, Chordata, Craniata, Vertebrata,
Mammalia, Eutheria, Cetartiodactyla, Suina, Suidae,
1 (bases 1 to 715)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /codon_start=1
/produce="kappa opioid receptor"
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/db_xref="GI:4102308"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'tissue_type="cerebral cortex":1. .>715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Sus scrofa"
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/db_xref="taxon:9823"
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                      106367 AGTICAGGAICCTGCTIACCTGAGGGACATCGAIGGAIGAATAAACCAGIATGACTAGI 106308
                                                                                                                                                                                                                                                          PRI 30-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
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1089 AGTTCAGGATCCTGCTTACCTGAGGGACATCGATGGATGAATAAACCAGTATGACTAGT
                                                                                                                                                                                                                                        ACOO9646 183519 bp DNA linear PRI 30-JUL-
Homo sapiens chromosome 8, clone RP11-162D9, complete sequence.
ACOO9646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (bases 1 to 183519)
Birren,B., Nusbaum,C. and Lander,E.
Homo sapiens chromosome 8, clone RP11-162D9
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                                                     NOTE: This is a 'working draft' sequence. It currently consists of 3 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the agaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
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Quality coverage: 9.3 in Q20 bases, agarose-fp
Quality coverage: 9.4 in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                            122175: contig of 122175 bp in length
122176 122275: gap of 100 bp
122276 127720: contig of 5445 bp in length
127721 127820: gap of 100 bp
127821 179356: contig of 51536 bp in length.
Location/Qualifiers
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/clone_lib="RPCI-11 Human Male BAC"
1. 122175
/note="assembly_fragment
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47.3%; Score 546; DB 2;
Best Local Similarity 100.0%; Pred. No. 1.7e-90;
Matches 546; Conservative 0; Mismatches 0;
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122276. .127720
/note="assembly_fragment"
127821. .179356
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/db_xref="taxon:9606"
/chromosome="8"
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vector_side:right"
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609 AGACGICGAIGICATIGAGIGCICCTIGCAGIICCCAGAIGAIGACIACICCIGGIGGGA
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complement (19125. 19135)
/note="<30 qual SNGL region"
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16861 . 17279
/ Typt family="L2"
16861 . 17279
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/ Typt family="
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complement (24533. .24622)

/rpt_family="LTR30"

complement (24624 . .24978)

/rpt_family="LTR12"

25017 .25360
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complement (3857. .38827)
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38828. .38862
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complement (38863. .38979)
/rpt family="FiAM C"
complement (38980. .39830)
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                                                                                                                                                                                                     complement (15771. .15841)
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complement (16161. .16309)
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complement (25400. .25836)
rpt family="MLT1C"
27816. .29061
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:omplement(30152. .30316)
rpt_family="MIR"
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complement(11207. 12
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                                                                                                                                                                    /rpt_family="L1MA6"
complement(15771...)
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rpt_family="THE1C"
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Matches 546; Conservative
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               Paro, S., Ferreira, P., FitzGerald, M., Dewal, M., Dodge, S., Paro, S., Ferreira, P., FitzGerald, M., Gage, D., Galagan, J., Gardyna, S., Gord, S., Graham, L., Grand-Pierre, N., Hagos, B., Horton, L., Hulme, W., Ilev, I., Johnson, R., Jindblad-Toh, K., Liudblad-Toh, K., Liudblad-Toh, K., Liud, G., MacLean, C., Macdonald, P., Major, J., Matthews, C., McCarthy, M., Meldrim, J., Menders, T., Micol, R., Indona, V., Murphy, T., Naylor, J., Nghor, C., Nicol, R., Nobb, C., Norman, C. H., Phunkhang, P., Pierre, N., Raymond, C., Retta, R., Rise, C., Rogov, P., Smith, C., Spencer, B., Stange-Thomann, N., Stojanovic, N., Talamas, J., Schauer, S., Schupback, R., Seaman, S., Schupback, R., Seaman, S., Schupback, R., Seaman, S., Schupback, R., Vola, W., Talams, J., Tesfaye, S., Theodore, J., Topham, K., Travers, M., Vassiliev, H., Vola, R., Vola, M., Mulson, B., Whu, X., Wyman, D., Young, G., Zainoun, J., Zembek, L., Zimmer, A. and Zody, M.

Direct Submission

L. Submitted (30-JUL-2002) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA
On Jul 30, 2002 this sequence version replaced gi:21431154.

All repeats were identified using RepeatMasker:
Smit, A.F. A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Center: Whitehead Institute/ MIT Center for Genome Research
Center code: WIBR
   Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S.
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Contact: sequence submissions@genome.wi.mit.edu
Center project Information
Center project name: 1.2157
Center clone name: 162_D_9
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complement(4337. 4434)
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complement(4495. 4801)
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complement (6227. .6537)
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complement(4987. .5542)
/rpt_family="LIMA8"
complement(5606. .5714)
/rpt_family="LIMC4a"
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complement (8136. .8436)
/rpt family="LIMA8"
8437. .8465
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9676. .9736
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/rpt_family="L1MA8"
8679. .8759
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; 47:3%; Score 546; DB 9; Length 183519; 100.0%; Pred. No. 1.7e-90; iive 0; Mismatches 0; Indels 0;

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Score 510.6; DB 5;
Pred. No. 5.6e-84;
0; Mismatches 279;
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Rana pipiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Neobatrachia; Ranoidea; Ranidae; Rana;

    1454

'Gene="RPKOR"

'note="kappa opioid-like receptor; single base insertion

results in a frameshift in the potential coding region"

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                                                                                                                                         CGTCTGCTACACCCTGATGATCATCTGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCG
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                                                                                                                                                                                                                                                                                                               110950 CGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGGAGCACTC
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                               CCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTCATCATCAT
                                                                                                                CGTCTGCTACACCCTGATCCTGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCG
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1 (bases 1 to 1454)
1 tevens, C.W. and Brasel, C.M.
Cloning and homology of three novel opioid-like receptors
amphibian
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( Loase I to 1387)

Barrallo, A., Gonzalez-Sarmiento, R., Alvar, F. and Rodriguez, R.E. ZFOR2, a new opioid receptor-like gene from the teleost zebrafish
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AF132813 GI:12658907
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Rodriguez,R.E., Gonzalez-Sarmiento,R., Barrallo,A. and Alvar,F.

Direct Submission
Submission
Submitted (03-MAR-1999) Biochemistry and Molecular Biology,
University of Salamanca, Campus Unamuno, Salamanca 37007, Spain
Location/Qualifiers
1. 1387
/organism="Danio rerio"
/mol type="mana"
/mol type="mana"
/mol type="mana"
/mol type="mana"
                                                 ----GACGAACAATGGCACGACAGAGTGTGCTCTGCAGTTTCCA---GACCGTATGTC
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                                                                                                                               TGGTGGGACCTCTTCATGAAGATCTGCGTCTTCATCTTTGCCTTCGTGATCCCTGTCCTC
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            GTCAGGGAAGACGTCGATGTCATTGAGTGCTCCTTGCAGTTCCCAGATGATGACTACTCC
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/product="mu opioid receptor-like OR2"
/protein_id="AAK01143.1"
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/gene="or2"
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E 1 (bases 1 to 1477)
S Rodriguez, R.B., Gonzalez-Sarmiento, R. and Alvar F. (Cloning and Characterization of ZFOR3; a new zebrafish opioid receptor-like protein
Unpublished
E 2 (bases 1 to 1477)
S Rodriguez, R.B., Gonzalez-Sarmiento, R. and Alvar, F. Direct Submission
L Submitted (06-JUL-2000) Medicine, University of Salamanca, Avda. del Campo Charro, Salamanca 37007, Spain
Location/Qualifiers
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Danio rerio opioid receptor-like protein ZFOR3 mRNA, complete cds.
AF285173
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KRICVFIPEPRAPLALITUVXLAKUNLEKKSVBLLSGSREKDRNLRRITRLVLUVVAVP
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FRDFCCPGRIAGDGRGVSRVRSTLREHTCPABAKNDGGGGRFV"
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TTEQEAMSPLIPIITAVYSVVFVVGLVGNCLVMYVIIRHTKMKTATNIYIFNLRVADA
LVTTTMPPQSTDYLLNSWPFGEVVCKVFISIDYYNMFTSIFTLTMMSVDRYVAVCHPV
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Pred. No. 7.4e-80;
0; Mismatches 243; Indels 12;
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'protein id="AAG60607.1"
'db_xref="G1:12620177"
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/organism="Danio rerio"
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/db_xref="taxon:7955"
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larity 72.6%;
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0; Mismatches 305; Indels
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Best Local Similarity 67.7%;
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                                                                                                                                                AAGGGTGATCACGATTCCAGAACCACATTCCAGACCGTTTCCTGGCACTTCTGCATTG 997
                            GCATGCTATCGGGCTCCAAAGAAAGGACAGGAATCTGCGCAGGATCACCCGGATGGTGC 877
                                                              TGGTGGTGGTGGCAGTCTTCGTCGTCTGCTGGACTCCCATTCACATATTCATCCTGGTGG 889
                                                                                          redriegredriegeneraritariegredriegacececearecacarearearea 937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vertebrata; Euteleostomi;
GECTCCTTTCTGGCTCCCGAGAGAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCC
                                                                                                                                                                                                             CTTTGGGTTACACGAACAGCTGCTGAATCCAGTTCTTTACGCCTTCCTGGATGAAAACT
                                                                                                                          AGGCTCTGGGGAGCACCTCCCACAGCACAGCTGCTCTCTCCACAGCTATTACTTCTGCATCG
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Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Original source text: Rattus norvegicus (library: lambda ZAP (Stratagene)) cortex cDNA to mRNA.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Wang, J.B., Imai, Y., Eppler, C.M., Gregor, P., Spivak, C.E. and
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Rattus norvegicus Mu opiate receptor (MUOR1) mRNA,
L20684
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db_xref="taxon:10116"

/tissue_type="cortex"

/tissue_lib="lambda_ZAP (Stratagene)"

1. 2135
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/producf==mu opiate receptor"
protein_id="AAA41643.1"
/db_xref="G1:409150"
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Proc. Natl. Acad. Sci. U.S.A. 90
94052137
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Mu oplate receptor.
Rattus norvegicus (Norway rat)
Rattus norvegicus
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(1. .1227
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RATMUCRIA
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  Pred. No. 1.9e-72;
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     67.0%;
                              669; Conservative
Best Local Similarity
Matches 669; Conser
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                                                                                                   TTGATTACTACAACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACCGCT
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Thompson, R.C., Mansour, A., Akil, H. and Watson, S.J.
Cloning and pharmacological characterization of a
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Rat mu opioid receptor mRNA, complete cds.
L22455
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Rattus norvegicus
Bukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
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RITRWYLVVVAVFIVWTPIHIYVIIKALITIPETTPQTVSWHFCIALGYTNSCLNPV
LYAFLDENFKRCFREFCIPTSSTIEGONSTRVRQNTREHPSTANTVDRTNHQLENLEA
'ETAPLP"
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TNIYIFNLALADALATSTLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTLCT
MSVDRYIAVCHPVKÅLDFRTPRNAKIVNVCNWILSSAIGLPVMFMATTKYRQGSIDCT
                                              ROD 09-JAN-2003 complete cds.
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Primary Structures and expression from cDNAs of rat opioid receptor delta— and mu-subtypes
FEBS Lett. 327 (3), 311-314 (1993)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (03-JUN-1993) Hiroshi Takeshima, International Institute for Advanced Studies; c/o Shimadzu Corporation N-80, 1 Nichinokyo-Kuwahara-cho, Kyoto 604, Japan (Tel:81-75-823-1208, Fax:81-75-811-8186)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGGTCTACTTGATGAATTCCTGGCCTTTTGGGGGATGTGCTGTGCAAGATAGTAATTTCCA 409
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Rattus norvegicus (Norway rat)
Rattus norvegicus (Norway rat)
Rattus norvegicus (Rordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae;
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                                              mRNA linear
opioid receptor B,
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Pred. No. 1.9e-72;
0; Mismatches 320;
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1. 2397
/organism="Rattus norvegicus"
/mol_type="mRNA"
/strain="Wistar"
/db_xref="taxon:10116"
/clone="pROR15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
product="opioid receptor
protein_id="BAA03852.1"
db_xref="G1:391867"
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/dev_stage="adult"
1. .2397
/gene="ROR-B"
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mRNA
                                                                         Rattus norvegicus ROR-B D16349
D16349.1 G1:391866
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/gene="ROR-B"
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ilarity 67.0%;
Conservative
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1 (bases 1 to 2397)
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Takeshima, H.
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae,
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                                                                                                                                                                                                                                                                            890 AGGITCIGGGGAGCACCTCCCACAGCACAGCTGCTCTCCCAGCTATTACTTCTGCATCG
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Submitted (24-SEP-1993) James R. Bunzow, VIABR, Oregon Health
Sciences University, 3181 S.W. Sam Jackson Park Rd., Portland,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Saez, C., Ronnekleiv, O.K.,
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/codon_start=1

/product="mu-opioid receptor"

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/organism="Rattus norvegicus"
/mol type="mRNA"
/strain="Sprague Dawley"
/db_xref="taxon:10116"
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Xelly,M.J. and Grandy,D.K.
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LTFSHPTWYWRNLLKTCVFIFAFIMPVLIIYVCYGLMILRLKSVRMLGSKEKDRNLR
RITRMYLVVVAVFIVCWTPIHIYVIIKALITIPETTRQTVSWHFCIALGYTNSCLNPV
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'tissue_lib="lambda ZAPII from Stratagene"
                                                                      organism="Rattus norvegicus"
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                                                                                                           /mol_type="mRNA"
/strain="Sprague-Dawley"
/db_xref="taxon:10116"
/sex="male"
                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
/product="mu opioid rece
/protein_id="AAA16075.1"
/db_xref="GI:437672"
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Chen,Y., Mestek,A., Liu,J., Hurley,J.A. and Molecular cloning and functional expression of Erom rat brain
Mol. Pharmacol. 44 (1), 8-12 (1993) 1586 bp mRNA opioid receptor mRNA, Score 446.4; DB 10; Pred. No. 3.7e-72; 0; Mismatches 321; /product="mu opioid receptor" /protein_id="AAA41630.1" /db_xref="GI:348251" organism="Rattus norvegicus" /mol_type="mRNA" /db_xref="taxon:10116" /tissue_type="Whole brain" 210: .1406 'evidence=experimental rat) Chordata; Rodentia; source text: Rattus Location/Qualifiers L13069.1 GI:348250 mu opioid receptor. Rattus norvegicus (Norway Rattus norvegicus codon_start=1 Query Match
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Matches 668; Conservative ם Eukaryota; Metazoa; Mammalia; Eutheria; Rattus norvegicus L13069 93341493 8393525 Original Rattus. 290 586 646 470 706 g

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TCATCAATATCTGCATCTGGCTGCTGTCGTCATCTTGGCATCTGCAATAGTCCTTG
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/organism="unknown"
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Pred. No. 3.7e-72;
0; Mismatches 321;
            receptor
Polynucleotide encoding mu opioid re
Patent: US 6103492-A 3 15-AUG-2000,
Location/Qualifiers
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	QY 770 GGCTCCTTTCTGGCTCCCGAGAAAGATCGCAACCTGCGTAGGATCACCAGACTGGTCC 829	OY 830 TGGTGGTGGTGGTGTCTTCGTCGTCGTGGACTCCCATTCACATATTCATCCTGGTGG 889	QY 890 AGGCTCTGGGGAGCACCTCCCACAGCTGCTCTCCAGCTATTACTTCTGCATCG 949	QY 950 CCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTAGGCCTTTCTTGATGAAAACT 1009	QY 1010 TCAAGGGGTGTTTCGGGACTTCTGCTTTCCACTGAAGATGAGGAGGGGCGGAGGC 1069	QY 1070 CTAGCAGAGTCCGAAATACAGTTCAGGATCCTGCTTAC 1107	RESULT 47 RRISI355 DEFINITION Sequence 3 from patent US 6235496. DEFINITION Sequence 3 from patent US 6235496. VERSION AR15335. VERSION AR15335. RICESSION AR15335. GRANISM AR15335. GRANISM Unknown. ORGANISM Unknown. PAUTORS Unclassified. Location/Qualitaria OURRAL AUTORS OURRAL OURRAL DOUGHAL AUTORS AUTORS	Db 590 TCAACTACCTGATGGGAACATGGCCCTTCGGAACCATCCTGCAAGATCGTGATCTCAA 649 . Qy 410 TTGATTACTACAACATGTTCACCAGCATCTTCACCTTGACCATGATGAGGGGGGCGGCT 469

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Briones-Urbina, R. and O'Dowd, B.F.
Cloning, characterization, and distribution of a mu-opioid receptor
in rat brain
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Sciurognathi, Muridae, Murinae,
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ON MSS 1A8, Canada
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Submitted (05-SBP-1995) Brian F. O'Dowd,
of Toronto, 8 Taddle Creek Rd., Toronto,
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .1367
/organism="Rattus norvegicus"
/mol_type="mRNA"
/db_xref="taxon:10116"
70. .1266
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                                            AAAGATCGCAACCTGCGTAGGATCACCAGACTGGT
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Rattus norvegicus
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Mammalia; Eutheria; Rodentia;
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O'Dowd, B.F.
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HPPWWETLLFRICVFILAFMPVLISAICSPMILARSSYRMSGSKEKDRIBETTR
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/note="G-protein-coupled_receptor"
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                                                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
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/db_xref="GOA:04234"
/db_xref="SPTREMBL:042324"
                                            r. 52, 20246 Hamburg, FRG
Location/Qualifiers
                                                                                                                                                             organism="Catostomus
                                                                                                                                                                                 /mol_type="mRNA"
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PRI 31-DEC-2002

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TATNIYIENLALADALATSTLPFQSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTL
CTMSVDRYIAVCHPVKALDFRTPRNAKIINVCNWILSSAIGLPVMFMATTKYRQGSID
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                                                                                                                                                                                                                                                                                                                                                                    2 (bases 1 to 1464)
Pan.Y., Xu,J., Xu,M. and Pasternak,G.W.
Direct Submission
Submitted (26-MAY-2001) Neurology, Memorial Sloan-Kettering Cancer Center, 1275 York Ave, New York, NY 10021, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           354 AGACTGCCACCAACATCTACATTTTCAACCTTGCTCTGGCAGATGCCTTAGCCACCAGTA 413
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                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.

(Dases 1 to 1464)

Pan,Y., Xu,J., Xu,M. and Pasternak,G.W.

Isolation and characterization of a splice variant of human mu opioid receptor gene (OPRM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCGGCTGGGCCCGAGCCACAGCAACGGCAGCCGGCTCGGAGGACGCGCAGCTGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 234 CCGGCAGICCCICCAIGAICACGGCCAICACGAICAIGGCCCICIACICCAICGIGGC
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          174 ccarccaraccarccaraccarccarccaraccaracacacaracacaraccaraca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGCGCACATCTCCCCGGCCATCCCGGTCATCACGGCGGTCTACTCCGTAGTGTTCG
                                                                           AY036622 1464 bp mRNA linear PRI 31-
Homo sapiens mu opioid receptor variant MOR-1R (OPRM) mRNA,
complete cds, alternatively spliced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="alternatively spliced; exon 4 of the MOR-1 replaced by a new exon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1464;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1. .1464
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/db_rref="texon:9606"
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/map="6q24-25"
                                                                                                                                                     AY036622.1 GI:27446645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="OPRM"
50. .1390
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                                                                                                                                                                                              Homo sapiens (human)
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ORGANISM
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VERSION
KEYWORDS
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AY036622
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AUTHORS
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TITLE
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JOURNAL
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                                                                                                                                                                                                                566 ACATIGCIGICTGCCACCAGICAAAGCCCTGGAITTCCGIACCCCCGGAAATGCCAAAAA
                                                                                                              ACAGCAACGCAGCGCCGGCTCGGAGGACGCGCAGCTGGAGCCCCGCCGCAATCTCCCCGG
                                                                                                                                                       ACCGCACCGGGGTTGGCGGGAACGACAGCCTGTGCCCTCAGACCGGCAGCCCTTCCATGG
                                                                                                                                                                                          CCATCCCGGTCATCACGGCGGTCTACTCCGTAGTGTTCGTCGTGGGCTTGGTGGGGCA
                                                                                                                                                                                                                                                                                                          ACTICCTGGTCATGTATGTAAGATACACCAAATGAAGACTGCCACCAACATCT
                                                                                                                                                                                                                                                                                                                                                                          350 CGGTCTACTTGATGAATTCCTGGCCTTTTGGGGATGTGCTGTGCAAGATAGTAATTTCCA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       770 GGCTCCTTTCTGGCTCCCGAGAAAAATCGCAAACCTGCGTAGGATCACCAGACTGGTCC
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                                                                                                                                                                                                                                                                       626 TCGTCAACGTCTGCAACTGGATCCTCTTCTGCCATCGGTCTGCCTGTAATGTTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 890 AGGCTCTGGGGAGCACCTCCCACAGCACAGCTGCTCTCTCCAGCTATTACTTCTGCATCG
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                                    Score 444.8; DB 10; Length 1367;
Pred. No. 7.2e-72;
0; Mismatches 322; Indels 9;
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                                      38.5%;
66.8%;
                                                       Best Local Similarity 66.8
Matches 667; Conservative
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/product="mu opioid receptor variant MOR-1C"
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PVLXAFIDBURFRCFREFCTFTSSNIEQONSTRIRONTRDHPSTANIVDRTNHQPPPLA
VSMAQIFTRYPPPTHREKTCNDYMKR"
                                                                                                                                                                                                                                                                                             note="alternatively spliced; exon 4 of the MOR-1 gene is replaced by a new exon; similar to mouse mu opicid receptor MOR-1C"
Pan, Y., Xu, J., Xu, M. and Pasternak, G.W.
Direct Submission
Submitted (26-MAY-2001) Neurology, Memorial Sloan-Kettering Cancer
Center, 1275 York Ave, New York, NY 10021, USA
1. .1388
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Pred. No. 5e-70;
0; Mismatches 327;
                                                                                                               1. .1388
/organism="Homo sapiens"
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/map="6424-25"
                                                                                                                                                                                                                                                        /gene="OPRM"
50. .1306
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larity 66.3%;
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1 (bases 1 to 1388)

Pan, Y., Xu,J., Xu,M. and Pasternak, G.W.

Cloning and characterization of splice variant MOR-IC of the human mu opicial receptor gene

7 (bases 1 to 1388)

2 (bases 1 to 1388)
                                                                                                                                                          GCAAGATAGTGATCTCCATAGATTACTATAACATGTTCACCAGCATATTCACCCTCTGCA
                                                                                                                              TGATGAGCGTGGACCGCTACATTGCCGTGTGCCACCCCGTGAAGGCTTTGGACTTCCGCA
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                                               GCAAGATAGTAATTTCCATTGATTACTACAACATGTTCACCAGCATCTTCACCTTGACCA
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bb 603 CCCTGCCCTTCCAGAGTGGAATACCTAATGGGAACATGGCCATTTGGAACCTTT 662 oy 392 GCAAGATACTACTACTACAACATGACTTCACCAGCATTTGGAACCTTTT 662 oy 452 TGATGAGTATTTCCATTACTATACTACTACACAGCATATTCACCTTGAACA 722 oy 452 TGATGAGTGTTCCATTACTATACTACTACTACTACACAGCATATTCACCTTCGGA 712 oy 512 CATCAGAGTGTTGATCATTACATACTACCATGCTCGGCTTTGGATTTCCGTA 782 oy 512 CACCTTGAAAGTATTACATACATACTACCATCTGGCTGCTCGTTGGCA 571 bb 783 CTCCCGAAATGCCAAATTACAATATTCGCAACTGGCTGCTCTTTGGCA 571 oy 512 TCTCTGGAAATAGTCTTGAAATTATCAATGTCTGCTGCTCTTTTTTTT	05 04.3 TTCTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	oy 812 GGATCACCAGACTGGTGGTGGTGGCAGTCTTCGTCGTCGTCTGCTCGACTTC 871 bb 1074 GGATCACCAGATGGTGGTGGTGGTGGTCGTCTCTCTCTCT	HUMOPIOIDA HUMOPIOIDA 1610 bp mRNA linear PRI 03-AUG-1995 LOCUS DEFINITION Homo sapiens opioid receptor mRNA, complete cds. ACESSION 129301.1 GI.459831 KEYWORDS Opioid receptor. SOURCE Homo sapiens (human) ORGANISM HOMO sapiens (human) AUTHORS HOMO Sapiens I (bases 1 to 1610) AUTHORS HOMO SAPIENS. (Campbell, A.D., Chen, Y., Tian, M., Liu, J., Schulman, H. and Yu, L. TILE The human mu opioid receptor: modulation of functional desensitization by calcium/calmodulin-dependent protein kinase and protein kinase (JOURNAL J. Neurosci. 15 (3 Pt 2), 2396-2406 (1995) COURNEL 95198115 COOMENT Original source text: Homo sapiens.
Db 708 CACTAACATICTCAICCAACCTGGGAAAACCTGCTGAAGATCTGTGTT 764 Qy 692 TCATCTTGCCTTCGTGATCCTGTCATCATCATCGTTGTT 764 Db 752 TCATCTTCGCCTTCATATGCCAGTGCTCATCATTACCGTGTTATGGTTGTTGTT 824 Qy 752 TGCGTCTCAAGAGCGTCCGTTTTCTGGCTCCGAGAAAGATCTGGAA 884 Qy 825 TGCGCTCCAAGAGCGTCCGTTTCTGGCTCCCAAGAAAGATCTTCGAA 884 Qy 826 TGCGCTCAAGAGTCCGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGTGGT	Db 945 ACATTTACGTCATCATTAAAGCCTTGGTTACAATCCCAGAAACTACGATCTCAGACTTT 1004 Qy 932 GCTATTACTTCTGCATTGCTCTAGGCTATACCAACGCTGCTCATCCCTTACG 991 Db 1005 CTTGGCACTTCTGCATTGCTCTAGGTTACACAACGCTCCTTATG 1064 Qy 992 CCTTTCTTGATGAAAACTTCAAGGGGACTTCTGCTTTCCACTGAAGATGA 1051 Db 1065 CATTCTGGATGAAAACTTCAAAGGGGTCTTTCGGAAGTTCTGCTTTCCACTGAAGATGA 1051 Qy 1052 GGATGGAGGGCAGAGCTAGCAGAGTCCGAAATA 1087 Db 1125 ACATTGAGCAACAAAACTTCAAATCGTCAAA 1160	RESULT 52 AR106017 LOCUS DEFINITION Sequence 7 from patent US 6103492. DEFINITION Sequence 7 from patent US 6103492. VERSION AR106017 VERSION AR106017 VERSION AR106017.1 GI:12820082 SOURCE Unknown. ORGANISM Unclassified. REFERENCE 1 (bases 1 to 1610) AUTHORS Yu. L. TITLE POlymucleotide encoding mu opioid receptor JOURNAL Patent: US 6103492-A 7 15-AUG-2000; FEATURES 1. 1610 /OYGANISM ORIGIN //MOL_type="unassigned DNA"	Query Match Best Local Similarity 66.3%; Pred. No. 5e-70; Matches 660; Conservative 0; Mismatches 327; Indels 9; Gaps 2; Qy 92 CCGGCTGGGCCGACAGCCACACCTGGCGCTCGGAGGAGCCTGCGAGCTCGGAGCTCCGGA 422 Qy 152 CCGCGCACATCTCCCCGGCTCTCTCGGCGGTCTACTCCGTGGCCTCCGG 422 Qy 152 CCGCGCACATCTCCCCGGCATCATCACGCGGTTACTCCGTGGTGTTCG 211 Db 423 CCGGCGAGTTCGTGGCGAACTCCTGGTCGTTACTCCTGTGTGGG 482 Qy 212 TCGTGGGCATTGGTGGCAACTTTACATTTTACATTTTACATTTTACATTTTACATTTTACATTTACATTTTTACATTTTTACATTTTACATTTTACATTTTACATTTTTACATTTTTACATTTTACATTTTTT

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                                                                             GGATCACCAGACTGGTGGTGGTGGTGGCAGTCTTCGTCGTCTGCTGGACTCCCATTC
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Uhl, G., Johnson, P., Persico, A.M. and Wang, J.Bei.
CDNA and genomic clones encoding human .mu. opiate receptor
purified gene product
Patent: US 6258556-A 1 10-JUL-2001;
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Sequence 1 from patent US 6258556.
AR162044
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239. .1441
/note="putative"
/codon_start=1
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                                                                                  type="mRNA"
xref="taxon:9606"
             location/Qualifiers
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Matches 660;
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| (bases 1 to 2162)
| Hoebe, M. and Wendel, B.
| GENOMIC SEQUENCE OF THE HUMAN mu -OPIOID RECEPTO
VARIANTS, POLYMORPHISMS AND MUTATIONS THEREOF
PATENT: WO 9833377 A 7 06-AUG-1998;
HOEHE MARGRET (DB); WENDEL BIRGIT (DE)
Location/Qualifiers RESULT 55
A87781
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOUNCE
ORGANISM REFERENCE AUTHORS JOURNAL TITLE

1. .2162 /organism="unidentified" /mol_type="unassigned DNA" /db_xref="taxon:32644"

92 CCGGCTGGGCCGAGCCCGACAGCAACGCCAGCCCGGCTCGGAGGACGCCGCAGCTGGAGC 37.7%; Score 434.8; DB 6; Length 2162; 66.3%; Pred. No. 5e-70; iive 0; Mismatches 327; Indels 9; Conservative Local Similarity les 660; Conserv Query Match

Best Loca Matches

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ORIGIN

1107 1167 211 456 271 CATITICIGGATGAAAACTICAAACGAIGCTICAGAGAGIICIGIAICCCAACCICTICCA 1287 516 331 969 511 870 AGACTGCCACCAACATCTACATTTTCAACCTTGCTCTGGCAGATGCCTTAGCCACCAGTA 576 391 ccridcctrrccadadrendaarraccraardegaacardegcarradgaaccarccrr 636 451 571 crecegaaaneceaaannareaanerereeaacreearererererererereaeeane 816 631 691 927 751 987 811 697 ccardadordricardcaracarrecadrerecececerereaagecerragarrecera 756 CCGCGCACATCTCCCCGGCCATCCCCGGTCATCATCACGGCGGTCTACTCCGTAGTGTTCG 397 CCGGCAGTCCCTCCATGATCACGGCCATCACGATCATGGCCCTCTACTACTCCATCGTGCG TCGTGGGCTTGGTGGCCAACTCGCTGGTCATGTTCGTGATCATCCGATACACAAGATGA 457 resresescretresanactrecresrensiarererereneneatacacanda GCAAGATAGTAATTTCCATTGATTACTACAACATGTTCACCAGCATCTTCACCTTGACCA AGACAGCAACCAACATTTACATATTTAACCTGGCTTTTGGCAGATGCTTTAGTTACTACAA CCATGCCCTTTCAGAGTACGGTCTACTTGATGAATTCCTGGCCTTTTGGGGATGTGCTGT TGATGAGCGTGGACCGCTACATTGCCGTGTGCCCCCGTGAAGGCTTTGGACTTCCGCA CACCCTTGAAGGCAAAGATCATCAATATCTGCATCTGGCTGCTGTCGTCATCTGTTGGCA TCTCTGCAATAGTCCTTGGAGGCACCAAAGTCAGGGAAGACGTCGATGTCATTGAGTGCT TTCCTGTAATGTTCATGGCTACAACAAATACAGGCAAGG-----TTCCATAGATTGTA CCTTGCAGTTCCCAGATGATTACTCCTGGTGGGACCTCTTCATGAAGATCTGCGTCT TCATCTTTGCCTTCGTGATCCCTGTCCTCATCATCATCGTCTGCTACACCCTGATGATCC 928 rearcricecricarraneceaerecrearearracererecrarecreareareare 1108 ACATTTACGTCATCATTAAAGCCTTGGTTACAATCCCAGAAACTACGTTCCAGACTGTTT crisscaciriciscariscirciaestracacaaacaecrecercaaccaercerraae CCTTTCTTGATGAAAACTTCAAGCGGTGTTTCCGGGACTTCTGCTTTCCACTGAAGATGA cachaacantereneareergerachggaaaaeeree--rgaagareren TGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGAGAGAAGATCGCAACCTGCGTA GGATCACCAGACTGGTCGTGGTGGTGGCAGTCTTCGTCGTCGTCTGCTGGACTCCCATTC ACATATTCATCCTGGTGGAGGCTCTGGGGAGCACCTCCCACAGCACAGCTGCTCTCCCA 932 GCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTACG 1052 GGATGGAGCGGCAGAGCACTAGCAGAGTCCGAAATA 1087 ACATTGAGCAACAAAACTCCACTCGAATTCGTCAGA 212 517 152 332 577 392 637 757 632 - 886 872 452 512 572 817 871 692 752 812 1168 992 1228 g ò g g 8 ò ò g δ g ò q ò g Ś g δ g δ ДD ò Q à dd 8 a ò g ठ g à

AR181331 LOCUS DEFINITION ACCESSION RESULT 56

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DNA AR181331 2162 bp Sequence 1 from patent US 6335168. AR181331

PAT 20-APR-2002

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20-APR-2002

PAT

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1 (bases 1 to 2162)
Kreek, M.Jeanne, LaForge, K.Steven., Yu, L. and Tischfield, J.A.
Alleles of the human wu opioid receptor, diagnostic methods using
said alleles, and methods of treatment based thereon
Patent: US 6337207-A 1 08-JAN-2002;
Location/Qualifiers
1. -2162
AGACAGCAACCAACATTTAACATATTTAACCTGGCTTTGGCCAGATGCTTTAGTTACTACAA
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66.3%; Pred. No. 5e-70;
live 0; Mismatches 327;
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/mol_type="unassigned DNA"
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Sequence 1 from patent US 6337207.
AR182295.1 GI:20225211
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                                    SM Unknown.

Unclassified.

In (Basea 1 to 2162)

RS Kreek, M.Jaanne., LaForge, K. Steven., Yu, L. and Tischfield, J.A.

Alleles of the human mu opicid receptor and diagnostic methods based thereon

Alle Patent: US 6335168-A 1 01-JAN-2002;

ES Location/Qualifiers

ource /mol_type="unknown"

/mol_type="unassigned DNA"
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Antigenic peptides, such as for G protein-coupled receptors (GPCSB), antibodies thereto, and systems for identifying such antigenic peptides
Patent: WO 02061087-A 185 08-AUG-2002;
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Pred. No. 5e-70;
0; Mismatches 327;
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/organism="unknown"
/mol_type="genomic DNA"
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                                 Length 2162;
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                                   Score 434.8; DB 9;
Pred. No. 5e-70;
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CORNETNLGGRDSLCPPTGSPSMITAITIMALXSIVCWOJEGNFLWYKVIVRYTRMX
TATNIYIFNLALADALATSILPPGSVNYLMGTWPFGTILCKIVISIDYYNMFTSIFTL
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PVLYAFLDBNFKRCFREFCIPTSSNIEQQNSTRIRQNTRDHPSTANTVDRTNHQLENL
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1 (bases 1 to 2162)
Wang,J.B., Johnson,P.S., Persico,A.M., Hawkins,A.L., Griffin,C.A.
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                                       TECECCTCAAGAGTGTCCGCATGCTCTCTGGCTCCAAGAAAAGGACAGGAATCTTCGAA
                                                                                   TGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGAGAAAGATCGCAACCTGCGTA
                                                                                                                                                       GGATCACCAGACTGGTCCTGGTGGTGGTGGTCTTCGTCGTCTGCTGGACTCCATTC
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/gene="MOR1"
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Homo sapiens
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380 211 440 271 500 331

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1361. 1473
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Accession Number L25119) for these 113 nucleotides"
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/product==mu opioid receptor variant"
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LRTFISHPRYTWYRDLKICYPIFAFINPYLIKALVTRESTEGTBYWRLSGSKEXDRN
LRRITRAVLLVVVAVRTYUTFUTHIYVIIKALVTPETTFGTYSWHLGGSKEXDRN
PVLYAFLDENFKRCFRBFCIFTSSNIEQQNSTRIRQNTRDHPSTANTVDRTNHQVRSL
                                                                         HSU12569 1473 bp mRNA linear PRI 12-APR-1995 Human mu opioid receptor variant (MORI) mRNA, complete cds. U12569
                                                                                                                                                                                                         Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.

1 (10-1473)
Bare, L.A., Mansson, E. and Yang, D.
Bare, L.A., Mansson, E. and Yang, D.
Sx.N-SH cells and human brain
PEBS Lett. 354 (2), 213-216 (1994)
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Wang,J.B., Johnson,P.S., Persico,A.M., Hawkins,A.L., Griffin,C.A. and Uhl,G.R.
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/note="variant of human mu opioid receptor,
Accession Number P35372"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bare, L.A.
Direct Submission
Submitted (24-VUL-1994) Lance A. Bare
Avenue, Murray Hill, NJ 07974, USA
Location/Qualifiers
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/organism="Homo sapiens"

/org.Lype="mRNA"

/db xref="taxon:9606"

/cell type="neuroblastoma, Si

/tissue type="brain"

/gene="MOR1"

197 .1375
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/product="human mu opioid re/citation=[2]
/replace="a"
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/product="human mu opioid
/citation=[2]
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/product="human m/citation=[2]
/replace="g"
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125 CCTTCCCCAGTGCGAGCGCCAATGCGTCGGGGTCGCCGGGGCGCCCGCAGTGCCTCGTCCC
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Submitted (09-AUG-1993) Mary E. Abood, Pharmacology and Toxicology,
Medical College of Virginia/Virginia Commonwealth University, 1112
E. Clay St., Richmond, VA 23298, USA
Location/Qualifiers
1. 1366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SLALATATTALYSAVCAVGLICOVILYMPGIVRYTKLKTATNIYIFNIALADALATSTL
PPQSAKYLMETWPFGELLCKAVLSIDYYNMFTSIFTLTWMSVDRYIAVCHPVKALDFR
TPAKKKLINCIWVLASGVOPINWMYTQPROGAVVCTLÓPEBESWWDTVTKICVF
TPAKKYLDIITVCYGLMLLRINSVRLLSGSKEKDRSLRITRMVLVVVGAFVVCMAP
IHFVIVWTLVDINRRDPLVVAALHLCIALGYANSSLAPVLYAFLDENFKRCFRQLCR
APCGGQEPGSLRRPRQATARERVTACTPSDGPGGGAAA"
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                                                                                                                                 1212 CATTTCTGGATGAAAGTTCAAACGATGCTTCAGAGAGTTCTGTATCCCAACCTCTTCCA 1271
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1366 bp mRNA linear ROD 22-JUL-1994
status norvegicus Sprague-Dawley delta opioid receptor (dorl) mRNA,
complete cds.
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/db_xref="GI:514211"
/translation="MBPVPSARAELQFSJLANVSDTFPSAFPSASANASGSPGARSAS
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Murinae;
 delta opioid receptor
                         ACATTTACGTCATCATTAAAGCCTTGGTTACAATCCCAGAACTACGTTCCAGACTGTTT
                                                  GCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTACG
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Rattus norvegicus
Ebkaryota, Metazoa; Chordata; Craniata; Vertebrata; B
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Rattus norvegicus"
/mol_type="mRNA"
/strain="Sprague-Dawley"
/db_xref="taxon:10116"
/clone="19A1"
/clone lib="Stratagene lambdaZADII"
/.1366
                                                                                                                                                         1052 GGATGGAGCGCCAGAGCACTAGCAGAGTCCGAAATA 1087
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68.2%; Pred. No. 1.3e-69;
live 0; Mismatches 284;
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Abond, M.B.
Molecular Cloning and expression of a rat
from rat brain
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'product="delta opioid receptor"
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49. .1167
/gene="dor1"
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Best Local Similarity
Matches 635; Conserv
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CCGACAGCAACGGCAGCGCCGGCTCGGAAGGACGCGCAGCTGGAGCCCGCGCGCACATCTCCC 166

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ROD 09-JAN-2003 complete cds.
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D16348.1 GI:391864
G-protein coupled receptor.
Rattus norvegicus (Norway rat)
Rattus norvegicus (Norway rat)
Rattus norvegicus (Norway rat)
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cds, alternatively spliced.
AF346812
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                           CCATTGATTACTACAACATGTTCACCAGCATCTTCACCTTGACCATGATGAGCGTGGACC
                                                              Tobases 1 to 1438)
Pan, Y.-X., Xu, J. and Pasternak, G.
Direct Submission
Submitted (18-FEB-2001) Neurology, Memorial Sloan-Kettering
Center, 1275 York Ave, New York, NY 10021, USA
Location/Qualifiers
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Pan, Y. -X., Xu, J. and Pasternak, G. Identification and characterization of mouse mu opioid receptor gene
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/organism="Mus musculus"
/mol_type="mRNA"
/strain="CD-1"
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/protein_id="apioid receptor A"
/protein_id="apa03851.1"
/db_xxef="dT:391865x"
/translation="MEPVPSARAELOPSLLANVSDTFPSAFPSASANASGSPGARSAS SLALA.ITALXSAVCANGLIGANVLVNFGIVXYTKLKTATNIYIFNLALADALATSTL PFQSAKYLMETTALYSAVCANGLIGANVLVNFGIVXYTKLKTATNIYIFNLALADALATSTL PFQSAKYLMETMPFGELLCKAVLSIDYYNMFTSIFTLTMMSVDRYIAVCHPVKALDFR FPRAKLINITUCTWVLAGGVOFPUMNATVQPROGAVVCTLOFPSPSPSRWYDTYTKLCVF LFAFVVPILITITVCYGLMLLRLRSVRLLSGSKEKDRSLRRITRMYLVVVVGAFVVCMAP IHIFVIVWTLVDDINKRDPLVVVAALHLCTALGGYANSSLNRVLYAFLDENFKRCFRQLCR APCGGQEPGSLRRPRQATARERVTACTPSDGFGGGAAA"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          International Institute
                                                                                                                                                                                                                                                                                                                       Wang,J.B., Johnson,P.S., Imai,Y., Persico,A.M., Ozenberger,B.A., Eppler,C.M. and Uhl,G.R. cDNA cloning of an orphan opiate receptor gene family member and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCGACAGCAACGCCAGCCCCGGCTCGGACGCGCAGCTGGAGCCCGCGCACATCTCCC
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Nishinokyo-Kuwahara-cho, Kyoto 604, Japan (Tel:81-75-823-1208,
Fax:81-75-811-8186)
Location/Qualifiers
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                          Fukuda,K., Kato,S., Mori,K., Nishi,M. and Takeshima,H. Primary structures and expression from cDNAs of rat opioid delta- and mu-subtypes FEBS Lett. 327 (3), 311-314 (1993)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Rattus norvegicus"
/mol_type="mRNA"
/strain="Wistar"
                                                                                                                                                                                                                                                                                                                                                                                                                        its splice variant
FEBS Lett. 348 (1), 75-79 (1994)
94298959
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clone="pROR10"
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'dev_stage="adult"
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/gene="ROR-A"
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/brotein id="AA01373.1"
/bc xete="G1:27448125"
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/note="MOR-1Q; alternatively spliced variant of MOR-1 gene
with exon 17 in place of exon 4"
/codon_start=1
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TERSHPWWRRDLLKKTCYFTRARIMYLIITVCYGLMILKKSVRMGSGSKEKDRNLR
KITRWYLVVVAVPI (VCWTP1HIYVIIKALIITPETTRQTVSWHRCIALGYTNSCLNPV
LYAFLDENFKRCFREPCIPTSSTIEQONSARIRQNTREHPSTANTVDRTNHQTSLTLQ
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7 10021, USA
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Sciurognathi, Muridae, Murinae, Mus.
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Mus musculus mu opioid receptor variant Q (Oprm) mRNA, complete
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                     GGATCACCCGGATGGTGGTGGTCGTGGTGTATTTATTGTCTGCTGGACCCCCATCC
                                                                                                    956 ACAİCTATGTCATCATCAAAĞCACTGATCACGATTCCAGAAACCACTTTCCAGACTGTTT
                                                             ACATATTCATCCTGGTGGAGGCTCTGGGGAGCACCTCCCACAGCAGGTGCTCTCCCA
                                                                                                                                             GCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTACG
                                                                                                                                                                                                                                CCTTTCTTGATGAAACTTCAAGCGGTGTTTCCGGGGACTTCTGCTTTCCACTGAAGATGA
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Center, 1275 York Ave, New York, NY
Location/Qualifiers
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/mol_type="mRNA"
/strain="CD-1"
/db_tref="taxon:10090"
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any Y.-X., Xu,J. and Pasternak,G.
Direct Submission
Submitted (08-FEB-2001) Neurology
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Mammalia, Eutheria, Rodentia,
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67. .1245
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MNTGLGGSHSLCPQTGSSPATVALITALYSLYCVGUERGTMYWYLVBYTFKHTA
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                                                                            'gene="Oprm"
'note="MOR-1P; alternatively spliced variant of MOR-1 gene
vith exon 15 in place of exon 4"
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/protein_id="AA013792.1"
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Pasternak, G. and Pan, Y.-X.
Identification and characterization
the mu-opioid receptor gene
Patent: US 6500927-A 3 31-DEC-2002;
Location/Qualifiers 1334 bp 3 from patent US 6500927. 1334 /organism="unknown" /mol_type="genomic DNA" 812

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Pan, Y.X., Xu,J., Bolan,E., Abbadie,C., Chang,A., Zuckerman,A., Rossi,G. and Pasternak,G.W.
Identification and characterization of three new alternatively spliced mu-opioid receptor isoforms
Mol. Pharmacol. 56 (2), 396-403 (1999)
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Direct Submission
Submitcad (29-JUN-1998) Neurology, Memorial Sloan-Kettering Center, 1275 York Ave, New York, NY 10021, USA
Location/Qualifiers
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65.8%; Pred. No. 1.4e-69;
tive 0; Mismatches 336; Indels 9;
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/strain="C57BL/6J"
/db_xref="taxon:10090"
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Mus musculus
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Mus musculus mu opioid
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AF167566 1346 bp mRNA linear ROD 01-JAN-2002 Mus musculus mu opioid receptor variant BI mRNA, complete cds. AF167566

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605 CCCCCGGAAATTGCCAAACTGCACAACTGGATCCTCTTCTCCCATTGGTC 664 QY 572 TCTTGCAATAGTCTTGAAGGACACAAACTGGATCCTCTTCTTCTCATTGATTG	RESULT 70 AR269394 LOCUS DEFINITION Sequence 11 from patent US 6500927. NACESSION WRESTON AR269394.1 G1:29700555 KEYWORDS UNKNOWN. ORGANISY Unclassified. Un
VERSION AF16756.1 GI:18026692 KEYWORDS KURSTOCKE Mus musculus (house mouse) ORGANISM Mus musculus (house mouse) Enkaryota; Metasoa; Chordata; Craniata; Vertebrata; Buteleostomi; Bukaryota; Metasoa; Chordata; Craniata; Vertebrata; Buteleostomi; Bukaryota; Metasoa; Chordata; Craniata; Vertebrata; Buteleostomi; Bukaryota; Metasoa; Chordata; AUTHORS 1	Best Local Similarity 65.8%; Pred. No. 1.4e-69; Matches 663; Conservative 0; Mismatches 336; Indels 9; Gaps 2; Matches 663; Conservative 0; Mismatches 336; Indels 9; Gaps 2; Qy 92 CCGCCGGCCGGCCGGCGCGCGCGCGCGCGCGCGCGCGC

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ILYAFLDBNFKRCFREFCIPTSSTIEQQNSARIRQNTREHPSTANIVDRTNHQVCAF"
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Pan.Y.-X., Xu,J., Chang,A. and Pasternak,G.W.
Direct Submission
Submitted (12-UUL-1999) Neurology, Memorial Sloan-Kettering Cancer
Center, 1275 York Ave., New York, NY 10021, USA
Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 572 TCTCTGCAATAGTCCTTGGAGGCACCAAAGTCAGGGAAGACGTCGATGTCATTGAGTGCT 631
                                 mu-opioid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        67. .1239
/note="MOR-1A; alternatively spliced variant of MOR-1
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                                    spliced
Pan,Y.-X., Xu,J., Chang,A. and Pasternak,G.W. Identification and characterization of a mouse receptor isoform (MOR-1A)
                                                                                                                                                                                                                                                                                                             1. .1365
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ROD 01-JAN-2002

AF167565 1365 bp mRNA linear ROD 01-J7 Mus musculus mu opioid receptor variant A mRNA, complete cds. AF167565

AF167565.1 GI:18026690

Mus musculus (house mouse) Mus musculus Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.

REFERENCE

	AY160190 Mus musculus mu opicid receptor variant CII (Oprm) mRNA, complete cds; alternatively spliced. N Ay160190 AY160190 AY160190. AY160190. Mus musculus (house mouse) Mus musculus (house) Mus musculus (house) Mus musculus (house) L Chases 1 to 1733 S Xu, J and Pasternak, G.W. Direct Submissor gene Oprm Dipublished (07-OCT-2002) Neurology, Memorial Sloan-Kettering Cancer center, 125 York Ave., New York, NY 10021, USA L Submitted (07-OCT-2002) Neurology, Memorial Sloan-Kettering Cancer center, 125 York Ave., New York, NY 10021, USA L L Short (107-OCT-2002) And L type="MRNA" Arain" (11373 Arain" (1137) Ab Aref="Laxon:10090" (Arain" (1137) Ab Aref="Laxon:10090" (Arain" (1137) Ab Aref="Laxon:10090" (Arain" (1137) Ab Aref="Laxon:10090" (Arain (1137) Arain (1
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ORIGIN

Query Best Match	Query Match Best Local S Matches 663	37.5%; Score 432.4; DB 10; Length 1373; Similarity 65.8%; Pred. No. 1.4e-69; 3; Conservative 0; Mismatches 336; Indels 9; Gaps 2;
δ	92	CCGGCTGGGCCGAGCCCGACGAGCGAGGCGCCGGCTCGGAGGACGCGCAGCTGGAGC 151
qq	185	CCGACCCATGCGGTCCTAACCGCACGGGCTTGGCGGGAGCCACAGCCTGTGCCCTCAGA 244
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DP DP	305	-⊢
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eg Q	425	CGCTGCCCTTTCAGAGTGTTAACTACCTGATGGGAACGTGGCCCTTTGGAAACATCCTCT 484
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à	452	TGATGAGCGTGGACCGCTACATTGCCGTGTGCCACCCCGTGAAGGCTTTGGACTTCCGCA 511
Db	545	CCATGAGTGTAGACCGCTACATTGCCGTCTGCCACCCGGTCAAGGCCCTGGATTTCCGTA 604
λõ	512	CACCCTIGAAGGCAAAGAICATCAATATCIGCATCTGGCTGCTGCTCGTCATCTGGCA 571
Op	605	CCCCCCGAAATGCCAAAATTGTCAATGTCTGCAACTGGATCCTCTCTTGTCATTGGTC 664
ò	572	TCTCTGCAATAGTCCTTGGAGGCACCAAAGTCAGGGAAGACGTCGATGTCATTGAGTGCT 631
d d	665	TGCCCGTAATGTTCATGGCAACACACAAAATACAGGCAGG
ŏ	632	CCTTGCAGTTCCCAGATGATGACTACTCCTGGTGGGACCTCTTCATGAAAGATCTGCGTCT 691
d d	719	CCCTCACGTTCTCTCTCTCCCACATGGTACTGGGAGAACCTGCTCAAAATCTGTGTCT 775
λŏ	692	TCATCTTTGCCTTCGTGATCCCTGTCCTCATCATCATCGTCTGCTACACCCTGATGATCC 751
d d	776	TCATCTTCGCCTTCATCATGCCGGTCCTCATCATCATCGTGTGTTATGGACTGATGATCT 835
δγ	752	TGCGTCTCAAGAGGTCCGGCTCCTTTCTGGCTCCCGAGAGAAAAGATCGCAACCTGCGTA 811
a a	836	TACGACTCAAGAGTGTCCGCATGCTGGGGCTCCAAAGAAAAGGACAGGAACCTGCGCA 895
٥٧	812	GGATCACCAGACTGGTCCTGGTGGTGGCAGTCTTCGTCGTCGTCTGCTGGACTCCCAFTC 871
Dp	896	GGATCACCCGGATGGTGGTGGTGGTGGTGTATTTATTGTCTGCTGAACCCCCATCC 955
δý	872	ACATATICATCCTGGTGGAGGCTCTGGGGAGCACCTCCCACAGCACAGCTGCTCTCTCCA 931
Op	926	ACATCTATGTCATCATAAGCACTGCATTCCAGAAACCACTTTCCAGACTGTTT 1015
ò	932	GCTATTACTICIGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTACG 991
qq	1016	ccregcactricrecarrecerregerracacaaacaecreccreaaccagricrirare 1075

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Mus musculus mu opioid receptor variant C mRNA, complete cds.
AF062753
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                                                                                                                                                                                                                                                                                                                                                               956 ACATCTATGTCATCACAAGCACTGATCACGATTCCAGAAGCCACTTTCCAGACTGTTT 1015
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Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Wus.
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                                                                     TCATCTTCGCCTTCATCATGCCGGTCCTCATCATCACGTGTGTTATGGACTGATGATCT
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719 CCCTCACGTTCTCTCATCCCACATGGTACTGGGAGAACCTGCTC---AAAATCTGTGTCT
                                             TCATCTTTGCCTTCGTGATCCCTGTCCTCATCATCATCGTCTGCTACACCCTGATGATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Named of the control of the control of three new alternatively spliced mu-opioid receptor isoforms Mol. Pharmacol. 56 (2), 396-403 (1999)
                                                                                                                                                                                                                                                                                                                      932 GCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTACG
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/strain="C573L/6"

/db_xref="taxon:10090"

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TITLE
JOURNAL
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Pasternak G. and Pan, Y.-X.
Pasternak G. and Pan, Y.-X.
Indentification and characterization of multiple splice variants of the mu-opioid receptor gene
Patent: US 6500927-A 1 31-DEC-2002;
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      92 CCGGCTGGGCCGGAGCCCGACAGCAACGGCAGCGCCGGCTCGGAGGACGCCGCAGCTGGAGC 151
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              305 TAGTGGGCCTCTTTGGAAACTTCCTGGTCATGTATGTGATTGTAAGATATACCAAAATGA 364
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                        CCTITCITGAIGAAACIICAAGCGGIGIIICCGGGACIICIGCIIICCACIGAAGAIGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               425 CGCTGCCCTTTCAGAGTGTTAACTACCTGATGGGAACGTGGCCCTTTGGAAACATCCTCT
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                                                                                                              1052 GGATGGAGCGCAGAGCACTAGCAGAGTCCGAAATACAGTTCAGGATC 1099
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                                                                                                                                                         1136 caarccaacaacaacrcrcccaarcccrcaaaacacraccaaa
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    1423
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RITRMYLVVVAVEIVCWTPIHIYVIIKALITIPETTEQTVSWHFCIALGYTNSCLNPV LYAFLDENFYRCFREFCIPTSSTIEQONSARIRQNTREHPSTANTVDRTNHQPTLAVS VAQIFTGYPSPTHVEKPCKSCMDRGMRNLLPDDGFRQESGEGGLGR"

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1135 ACATCTATGTCATCATCAAGCACTGATCACGATTCCAGAAACCACTTTCCAGACTGTTT 1015 cchagcachrichechracchrachchahchachchahchardchahchahchard 1075 1051 2 571 631 991 718 691 775 751 811 895 871 955 931 391 451 544 511 604 664 244 211 304 271 364 331 424 484 GCAAGATCGTGAATCTCAATAGACTACAACATGTTCACCAGTATCTTCACCCTCTGCA 572 TCTCTGCAATAGTCCTTGGAGGCACCAAAGTCAGGGAAGACGTCGATGTCATTGAGTGCT GGATCACCAGACTGGTCCTGGTGGTGGTGGTCTTCGTCGTCGTCTGGACTCCCATTC ACATATTCATCCTGGTGGAGGCTCTGGGGAGCACCTCCCACAGCACAGCTGCTCTCTCCA GCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTTACG CCTTTCTTGATGAAAACTTCAAGCGGTGTTTCCGGGACTTCTGCTTTCCACTGAAGATGA CCGGCTGGGCCCGACAGCAACGGCAGCGCCGGCTCGGAGGACGCGCAGCTGGAGC CCGCGCCATCTCCCCGGCCATCCCGGTCATCACGCGGGGGTCTACTCCGTAGTGTTCG TCGTGGGGCTTGGGGGCAACTCGTGGTCATCTTCGTGATCATCCGATACACAAAGATGA 305 radriedecererredaaaaerrecredreardrarereraaraaararaaaarda AGACAGCAACCAACATTTACATATTTAACCTGGCTTTTGGCAGATGCTTTAGTTACTACAA CCATGCCCTTTCAGAGTACGGTCTACTTGATTGCTGGCCTTTTTGGGGATGTGCTGT cecrecccrrrcagaererraacraccrearegeaacereccrrrregaaacarccrcr 392 GCAAGATAGTAATTTCCATTGATTACTACAAGATGTTCACCAGCATCTTCACCTTGACCA TGATGAGGGTGGGACCGCTACATTGCCGTGTGCCACCCCGTGAAGGCTTTGGACTTCCGCA 545 ccaridaderoradaccecracarridecercreecadecedecadecerdearrirecera CACCCTTGAAGGCAAAGATCATCAATATCTGCATCTGGCTGCTGCTGGTCGTCTTGTTGGCA 605 ccccccaaaarccaaaarrercaarercrecaacrecarccrercrecarregere 665 TGCCCGTAATGTTCATGGCAACCACAAATACAGGCAGGGGTC-----CATAGATTGCA CCTTGCAGTTCCCAGATGATGACTACTCCTGGTGGGACCTCTTCATGAAGATCTGCGTCT cccrcacerrercareccaeracresesasasasere---aaarererer TCATCTTTGCCTTCGTGATCCTTCATCATCATCGTCTGCTACACCCTGATGATCC Tecencicaaeaecercerricineserecesaeaaaarcecaaecrecera 836 raceacreasgagrerececarecrereseseses raceasgasasasgaseses GGATCACCCGGATGGTGGTGGTCGTGGCTGTATTTTATTGTCTGCTGGACCCCCATCC Gaps Length 1423; 6 37.5%; Score 432.4; DB 10; Length 65.8%; Pred. No. 1.4e-69; ive 0; Mismatches 336; Indels Conservative Similarity 663; Query Match Best Local S: Matches 663, 1016 452 632 176 968 872 932 212 719 692 752 812 992 425 512 92 185 152 245 332 485 g qq d Db Db g g ò ò à Š ò g 셤 ò g δ δ В à d ð d à 셤 ò 셤 à $\dot{\delta}$ à

/evidence=experimental /product="mu opioid receptor isoform MOR-1Ha" /protein 1d="mal34395.1" /db xref="GI:17046163" /translation="mmEAPSKSAPQKLRQRDGNQEGKSYLRACPCKKLTEPRAAVRGR AF260306 1440 bp mRNA linear ROD 22-NOV-2001 Mus musculus mu opioid receptor isoform MOR-1Ha mRNA, complete cds, 2 151 407 211 Memorial Sloan-Kettering Cancer 10021, USA Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 1440)
Pan, Y.X., Xu, J., Mahurter, L., Bolan, B., Xu, M. and Pasternak, G.W. Generation of the mu opioid receptor (MOR-1) protein by three new spice variants of the Oprm gene Proc. Natl. Acad. Sci. U.S.A. 98 (24), 14084-14089 (2001) 19. .273 /note="alternatively spliced; additional translation of this mRNA sequence deposited in GenBank Accession Number CCGGCTGGGCCGAGCAGCAGCAGCAGCAGCGCCGGCTCGGAGGACGCGCGCAGCTGGAGC 348 ccearcoarcoarcorascos de consecuencia esta con contra con contra con ccacacacarcrecegaccarccogarcarcarcacagacaarcracrecaragrarres Gaps and 2 (bases 1 to 1440) Pan, Y.-X., Xu, J., Rossi, G., Xu, M., Mahurter, L., Bolan, E. Pasternak, G., Direct Submission Score 432.4; DB 10; Length 1440; Pred. No. 1.4e-69; 0; Mismatches 336; Indels 9; 99. .513 /note="alternatively spliced within exon 1" GWGAWNPNTLECSQLQPTESAASIQNHGQQRRPREHQRLL' Submitted (25-APR-2000) Neurology, Memorial Center, 1275 York Ave, New York, NY 10021, Location/Qualifiers organism="Mus musculus" /db_xref="taxon:10090" /chromosome="10" Mus musculus (house mouse) Mus musculus /mol_type="mRNA" /strain="CXBK" codon start=1 AF260306. AF260306.1 GI:17046162 37.5%; 65.8%; alternatively spliced. 1389. .>1440 'number=4 514. .866 /number=2 867. .1387 /number=3 1389. .>144 /map="10A2" <1. .98 /number=11 'number=1 Conservative Similarity 11717463 Query Match Best Local Simi Matches 663; 92 152 VERSION KEYWORDS SOURCE ORGANISM LOCUS DEFINITION REFERENCE AUTHORS TITLE MEDLINE PUBMED REFERENCE exon exon exon exon exon JOURNAL ACCESSION JOURNAL AUTHORS CDS FEATURES TITLE ORIGIN ð 셤 ò

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2 (bases 1 to 1440)

Pan, Y.-X., Xu,J., Rossi,G., Xu,M., Mahurter,L., Bolan,E. and Pan,Errak,G.W.

Direct Submission
Submitted (17-UJL-2001) Neurology, Memorial Sloan-Kettering Cancer Center, 1275 York Ave, New York, NY 10021, USA

Location Qualifiers
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Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus. 1 (Dases 1 to 1440)
Pan, Y.X., Xu,J., Mahurter,L., Bolan,E., Xu,M. and Pasternak,G.W. Generation of the mu opioid receptor (MOR-1) protein by three new spilce variants of the Oprm gene Proc. Natl. Acad. Sci. U.S.A. 98 (24), 14084-14089 (2001)
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this mRNA sequence deposited in GenBank Accession Number
AF260306"
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2 CCGGCTGGGCCGAGGCCGCACAGGAACGGCAGCGGCGCGCTCGGAGGAGGACGCGCAGCTGGAGC 151 407 211 467 271 527 331 587 332 CCATGCCCTTTCAGAGTACGGTCTACTTGATGAATTCCTGGCCTTTTGGGGATGTGCTGT 391 TAGTGGGCCTCTTTGGAAACTTCCTGGTCATGTATGTGATTGTAAGATATACCAAAATGA CCGCGCACATCTCCCCGGCCATCCCGGTCATCACGGCGGTCTACTCCGTAGTGTTCG 408 ccescas correcare ercaca eccarca carcarea con crarrica reference 272 AGACAGCAACCAATTTACATATTTAACCTGGCTTTGGCAGATGCTTTAGTTACTACAA TCGTGGGCTTGGTGGCCAACTCGCTGGTCATGTTCGTGATCATCCGATACACAAAGATGA 212 468 à q 8 셤 8

AF400246 1440 bp mRNA linear ROD 22-NOV-2001 Mus musculus mu opioid receptor 1 MOR-1 mRNA, complete cds, alternatively spliced.

Eukaryota, Metazoa, Chordata, Cranista, Vertebrata Eutoleostomi

Mus musculus (house mouse) Mus musculus

VERSION KEYWORDS SOURCE ORGANISM

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/organism="Mus musculus" /mol_type="mRNA" /strain="CD-1" /db_xref="taxon:10090"

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                                             Indels
    DB 10;
                                             0; Mismatches 336;
    Score 432.4; DB 1
Pred. No. 1.4e-69;
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Mus musculus mu opioid receptor MORIE mRNA, alternatively spliced,
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TNIYIFNLALADALATSTLPPQSVNYLMGTWPPGNILCKIVISIDYYNMFTSIFTLCT
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LTFSHFUWRENLLKTCVFIFRFINPYLIITVCYGLMILKKSYRMLSGSSEKDRNLR
LTFSHYLVVVAVRIVUKUCYPHILYVIIKALIIIPETTROTVSWHFCIALGYTNSCLNPV
LYAFLDENFKRCFREFCIPTSSTIEQONSARIRQNTREHPSTAATVDRINHQKKKLDS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (2) 1883 Lt o 1543)
Pan, Y. X. Xu, J., Bolan, E., Abbadie, C., Chang, A., Zuckerman, A., Rossi, G. and Pasternak, G.W.
Identification and characterization of three new alternatively spliced mu-opioid receptor isoforms
Mol. Pharmacol. 56 (2), 396-403 (1999)
                               836 TACGACTCAAGAGTGTCCGCATGCTGTCGGGCTCCAAAGAAAAGGACAGGAACCTGCGCA
                                                                                                                                                                   ACATATTCATCCTGGTGGAGGCTCTGGGGAGCACCTCCCACAGGACAGCTGCTCTCTCCA
TGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGAGAAAGATCGCAACCTGCGTA
                                                                                                                        932 GCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTACG
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Pan,Y.-X., Xu,J., Wan,B.-L., Zuckerman,A.B., Rossi,G.C.,
Leventhal,L. and Dasternak,G.W.
Direct Submission
Direct Submission
Submitted (29-UNN-1998) Neurology, Memorial Sloan-Kettering
Center, 1275 York Ave, New York, NY 10021, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                             GGATGGAGCGCAGAGCACTAGCAGAGTCCGAAATACAGTTCAGGATC 1099
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/product="mu opioid receptor MORIE"
/protein_id="AAD51862.1"
/db_xref="GI.5805155"
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/strain="C57BL/6J"
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AF074974
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| / or in type="mmnn" |
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Ban, Y.-X., Xu,J., Rossi,G., Xu,M., Mahurter,L., Bolan,E. and Parly T.-X., Xu,J., Rossi,G., Xu,M., Mehurter,L., Bolan,E. and Direct Submission

Submitted (25-AP2.2000) Neurology, Memorial Sloan-Rettering Cancer Center, 1275 York Ave, New York, NY 10021, USA

Location/Qualifiers
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Mus musculus

Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

1 (bases 1 to 1569)

Pan, Y. X., Xu, J., Mahurter, L., Bolan, E., Xu, M. and Pasternak, G.W.

Generation of the mu opioid receptor (MOR-1) protein by three new

Splice variants of the Oprm gene

Proc. Natl. Acad. Sci. U.S.A. 98 (24), 14084-14089 (2001)
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/evidence=experimental
/expeduct=manalayaisand receptor isoform MOR-1Ja"
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/note="alternatively spliced within exon 1"
/number=1
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0; Mismatches 336;
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1307 AF400248 110ear ROD 22-NOV-2001 MLN musculus mu opicid receptor 1 mRNA, complete cds, alternatively spliced. AF400248 1067 1127 1128 TACGACTCAAGAGTGTCCGCATGCTGTCGGGCTCCAAAGAAAAGGACAGGAACCTGCGCA 1187 871 751 811 631 691 776 451 836 511 896 716 391 CACCCTTGAAGGCAAAGATCATCAATATCTGCATCTGGCTGCTGTCGTCATCTGGCA 571 cccccaaaardccaaaarrercaarercrecaacrecarcercrercrecarreger 956 Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus. 1 (bases 1 to 1569)
Pan,Y.X., Xu,J., Mahurter,L., Bolan,E., Xu,M. and Pasternak,G.W. Generation of the mu opioid receptor (MOR-1) protein by three new splice variants of the Oprm gene 331 777 GCAAGATCGTGATCTCAAIAGACTACAACAACATGTTTCACCAGTATCTTCACCCCTCTGCA 1011 ccctcacgtrctctcatccacatagtactgcagaActgctc---aaaatctgctct 692 TCATCTTTGCCTTCGTGATCCCTGTCCTCATCATCGTCTGCTACACCCTGATGATCC GCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTTACG CCITICITGALGAAACTICAAGCGGTGTTTCCGGGACTICTGCTTTCCACTGAAGATGA cecrecectricadagenaraciacidaressacerescerricasaacarecer GCAAGATAGTAATTTCCATTGATTACTACAACATGTTCACCAGCATCTTCACCTTGACCA 452 TGATGAGGGTGGACCGCTACATTGCCGTGTGCCACCCCGTGAAGGCTTTGGACTTCCGCA TCTCTGCAATAGTCCTTGGAGGCACCAAAGTCAGGGAAGACGTCGATGTCATTGAGTGCT CCTTGCAGTTCCCAGATGATGACTACTCCTGGGGACCTCTTCATGAAGATCTGCGTCT 752 TECGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGAGAAAGATCGCAACCTGCGTA GGATCACCAGACTGGTCGTGGTGGTGGCAGTCTTCGTCGTCTGCTGGACTCCCATTC 872 ACATATICALCCIGGIGGAGGCICTGGGGAGCACCTCCCACAGCACAGCTGCTCTCTCCA 1248 ACATCTATGTCATCAAAGCACTGATCACGATTCCAGAAACCACTTTCCAGACTGTTT AGACAGCAACCAACATTTACATATTTAACCTGGCTTTGGCCAGATGCTTTAGTTACTACAA CCATGCCCTTTCAGAGTACGGTCTACTTGATGAATTCCTGGCCTTTTGGGGGATGTGCTGT 1052 GGAIGGAGCGCAGAGCACTAGCAGAGTCCGAAATACAGTTCAGGATC 1099 1428 caarcdaacadcaaaacrcrgcrcdaarcdgrcaaaacacraggdaac 1475 Mus musculus (house mouse) AF400248.1 GI:17046396

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Pasternak, G. and Pan, Y.-X.
Bacteriak, G. and characterization of multiple splice variants of the mu-opicid receptor gene
Patent: US 6500927-A 16 31-DEC-2002;
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    organism="unknown"
    mol_type="genomic DNA"

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WNTGLGGGSPLSLCPQTGSSPMTALTYSTYCVGLEGAPTEDWYFVLYRTTGMTAT
TNIY FRYLALADALASTELPGOSWYLMGTWAPFGNILCKIV ISIDYRMFTSFTLCT
MSVDRYTAVCHPVKALDFRTFRNAKIVWVCNWILSSAIGLPVMFMATTKYRQGSIDCT
FRSHPWYMSMLLKIVCYFIFAFIRWYLIITYCYGGMILKSKYRMLGSGSKEKDRNLR
RITRWYLWYWANPICYCROTPIHTYVIIKALITTPETTFOTVSWHPCIALGYTNSCLNPY
LYAFLDENFKRCFREFCIPTSSTIEQONSARIRONTREHPSTANTVDRYNGLENLEA
                                                                         Total to 1569)

Pan, Y.-X., Xu,J., Rossi,G., Xu,M., Mahurter,L., Bolan,E. and Basternak,G.W.

Direct Submission

Submitted (17-JJL-2001) Neurology, Memorial Sloan-Kettering Cancer Center, 1275 York Ave, New York, NY 10021, USA

Location/Qualifiers
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/note="alternatively spliced; additional translation of
this mRNA sequence deposited in GenBank Accession Number
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  Proc. Natl. Acad. Sci. U.S.A. 98 (24), 14084-14089 (2001)
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/note="alternatively splice within exon 1"
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/product="mu opioid receptor 1"
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RESULT 82
MMU26315
MMU26315
MMU26915
DEFINITION MUS musculus mu opioid receptor (MOR-1) mRNA, complete cds.
ACCESSION U26915
VERSION U26915.
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Direct Submission
Submitted (11-MAY-1995) Ying-Xian Pan, Neurology, Memorial
Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY 10021,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           391
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                                                      Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleost
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae,
1 (bases 1 to 1610)
Rossi,G.C., Pan,Y.X., Brown,G.P. and Pasternak,G.W.
Antisense mapping the MOR-1 opicid receptor: evidence for alternative splicing and a novel morphine-6 beta-glucuronide
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FEBS Lett. 369 (2-3), 192-196 (1995)
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1. 1610
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/gene="MOR-1"
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    19. 165
        "Ancrea"alrernatively spliced; additional translation of this mana sequence deposited in GenBank Accession Number AR400271"

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688. .1040
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Direct Submission
Submitted (25-APL-2000) Neurology, Memorial Sloan-Kettering Cancer Center, 1275 York Ave, New York, NY 10021, USA
Location/Qualifiers
1. 1614
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Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
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Pan,Y.X., Xu,J., Mahurter,L., Bolan,B., Xu,M. and Pasternak,G.W.
Generation of the mu opioid receptor (MOR-1) protein by three new
splice variants of the Oprm Gne
Proc. Natl. Acad. Sci. U.S.A. 98 (24), 14084-14089 (2001)
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Pasternak, G. and Pan, Y.-X.
Identification and characterization of multiple splice variants of
305 TAGTGGGCCTCTTTGGAAACTTCCTGGTCATGTATGTGATTGTAAGATATACCAAAAATGA
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LTPSHPTWYNENLLKICVFIFFTMPVLIITWCYGIMILRIKSVRMLSGSKREDRNLS
RITRMVLVVVAVFINCTOFFIFTMPVLIITPETTFQTVSWHFCIALGYTNSCLNPV
LYAFLDENPKRCFREFCIPTSSTIEQQNSARIRQNTREHPSTANTVDRINHQIMKFBA
TYPKLSFKSWALKYFTFIREKKRNTKAGALPPLPTGHAGSPSQAHRGVAAMLLPLRHM
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                                                                                1413 CGTTCCTGGATGAAACTTCAAACGATGTTTTAGAGAGTTCTGCATCCCAACTTCCTCCA 1472
                             CCTTTCTTGATGAAACTTCAAGCGGTGTTTCCGGGACTTCTGCTTTCCACTGAAGATGA 1051
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PNRTGLGGSSHSLCPQTGSPSMVTAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMKTA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pan,Y., Xu,J., Xu,M. and Pasternak,G.W.
Direct Submission
Submistred (26-May-2001) Neurology, Memorial Sloan-Kettering Cancer
Center, 1275 York Ave, New York, NY 10021, USA
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="alternatively spliced; exon 4 of the MOR-1 gene is replaced by a new exon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       211
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       152 CCGCGCACATCTCCCCCGGCCATCCCGGTCATCACGGCGGTCTACTCCGTAGTGTTCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         245 ccescasaccericansarchasaccarchacarchranescerchantenarchans
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Pred. No. 1.4e-69;
0; Mismatches 336; Indels 9;
                                                                                                                                                                                         1473 CAATCGAACAGCAAAACTCTGCTCGAATCCGTCAAAACACTAGGGAAC 1520
                                                                                                                                      GGATGGAGCGGCAGACTAGCAGAGTCCGAAATACAGTTCAGGATC 1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'product="mu opioid receptor variant MOR-1R"
'protein id="AAK74188.1"
'db_xref="GI:27446644"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .1695
| Organism="Mus musculus"
| nol type="mRNA"
| db xref="taxon:10090"
| /chromosome="10"
| map="A2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mus musculus (house mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       AY036621.1 GI:27446643
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gene="Oprm"
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Best Local Similarity 65.8
Matches 663; Conservative
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                          992
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                                                                                                                                                                                                                                                                                RESULT 85
AY036621
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
SOURCE
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AUTHORS
TITLE
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AUTHORS
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/codon_start=1
/product="mu opioid receptor variant F"
/product="mu opioid receptor variant F"
/protein_id="haF79213.1"
/do xref="G1:8778198"
/translation="MDSSAGPGNISDCSDPLAPASCSPAPGSWLNLSHVDGNQSDPCG
/translation="MDSSAGPGNISDCSDPLAPASCSPAPGSWLNLSHVDGNQSDPCG
/profuceshsLoteprograspswratingwyerstuckivisldyrwwrixkrrationary
/profuceshsLoteprogrammix.rnvvcmulssaiglebymemattkrraggsldct
/profit infshprwymein.kicvplfaffnwylivkalitycyfdMailatksyrwisgeskexdbrila
/profuceshsrpryvcwylivkalityciixdlitypestratydsclinpy
/profuceshsrpryprsstiRogonsaalrogwrisgestratydsproducy
/profuceshsrpryproducesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profucesholdershylights//profuceshold
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NY 10021, USA
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Mus musculus
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Musinae, Pan, Y.X., Xu,J., Bolan,E., Chang,A., Mahurter,L., Rossi,G. and
Pasternak,G.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            212 TCGTGGGCTTGGTGGGCAACTCGCTGGTCATGTTCGTGATCATCAGATGA
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Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                 AF167568 1729 bp mRNA linear ROD 28-JU
Mus musculus mu opioid receptor variant F mRNA, complete cds.
AF167568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Isolation and expression of a novel alternatively spliced receptor isoform, MOR-1F FEBS Lett. 466 (2-3), 337-340 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chases 1 to 1729)
Pan,Y.-X., Xu,J., Chang,A., Mahurter,L. and Pasternak,G.W.
Direct Submission
Submitted (13-JUN-2000) Neurology, Memorial Sloan-Ketterin
Center, 1275 York Ave., New York, NY 10021, USA
1. 1729
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
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Pred. No. 1.4e-69;
0; Mismatches 336; Indels 9;
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                                                                                                                                                 1052 GGATGGAGCGCAGAGCACTAGCAGAGTCCGAAATACAGTTCAGGATC
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/mol_type="mRNA"
/strain="CD-1"
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Best Local Similarity 65.8%;
Matches 663; Conservative C
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                                                            1076
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
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AUTHORS
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PUBMED
REFERENCE
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JOURNAL
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AF167568
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0; Mismatches 336;
                       the mu-opioid receptor gene
Patent: US 6500927-A 9 31-DEC-2002;
Location/Qualifiers
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Db 1076 CGTTCCTGGATGAAA	NAL Patent: US 650927-A 10 31-DEC-2002; IES Location/Qualifiers	JOURNAL FEATURES
Qy 992 CCTTTCTTGATGAAA		TIL
Db 1016 CCTGGCACTTCTGCA		REFERENCE AUTHORS
Qy 932 GCTATTACTTCTGCA		SOURCE ORGE
OY 872 ACATATTCATCTGG 		VERSION KEYWORDS
968		DEFIN
Qy 812 GGATCACCAGACTGG	98	RESULT 88
Db 836 TACGACTCAAGAGTG	766664176766667177717777777777777777777	!
Qy 752 IGCGICTCAAGAGCG		è 8
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Qy 692 TCATCTTTGCCTTCG	552 CUTICITICATEGRAPHICAGGGGGGTGTTCGGGGGGTTCTCCTTCTCCTCTGAGGTGA 1051 1076 CGTTCCTCGATGAAACTTCAAACGATGTTTTAGAGAGTTCTGCATCCTGCAACTTCCTCAA	충 음 당
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	896 GGATCACCCGGATGGTGGTGGTGGTGGTGTATTTATTGTCTGGTGGACCCCCATCC 955	ОĢ
Db 545 CCATGAGTGTAGACC	812 GGATCACCAGACTGGTCCTGGTGGTGGTGGCAGTCTTCGTCGTCTGCTGGTGGACTCCATTC 871	ò
Oy 452 TGATGAGCGTGGACC	TACGACTCAAGAGTCCGCATGCTGGGGCTCCAAAAAAGGACAGGAACTTGCGTAACTTGCTAACTTGCTAACTTGCTGAAAAAAAA	장 쉽
Db 485 GCAAGATCGTGATCT	TGCGTCTCAAGAGCGTCCGGGCTCCTTTCTGGCTCCCGAGAAAATTCGCAA	ò
392 GCAAGATAGTAATTT	994 ICALILIOCLILOGIGALICCIGICLICATCATCATCATCATCATCATCATCATCATCATCATCATC	3 음
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Oy 2/2 AGACAGCAACGAACAACAACAACAACAACAACAACAACAA	665 TGCCGTAATGTTCATGGCAACCACAAATACAGGGGTCCATAGATTGCA 718	qq
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Qy 152 CCGCGCACATCTCCC	452 TGATGAGGGTAGGGTAGGGGTGTGGCGTGGAGGGTTTGGAGTTGCGGA 511 545 CGATGAGTGTAGAGTGGTGTGGTGTGGTGAGGGCTTTGGAGTTGGGATGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGTGGAGGGGGG	<u>2</u>
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. GG-	392 GCAAGATAGTAATTTCCATTGATTACTACAACATGTTCACCAGCATCTTCACCTTGACCA 451	& 8
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GTGGAGGCTCTGGGGAGCACCTCCCACAGCACAGCTGCTCTCTCCA 931
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                                                                                                                                                                  9; Gaps
                                                                                                                  Score 432.4; DB 6; Length 2045;
Pred. No. 1.4e-69;
0; Mismatches 336; Indels 9;
                                           /pe="genomic DNA"
45
ism="unknown"
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bp mRNA linear ROD 22-AUG-2001
opioid receptor, complete cds.
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Submitted (21-AUG-2000) Kazutaka Ikeda, RIKEN Brain Science
Institute, Neurobiology of Emotion Laboratory; 2-1 Hirosawa, Wako,
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Sciurognathi, Muridae, Murinae, Mus
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                                                                                                               CACCCTTGAAGGCAAAGATCATCAATATCTGCATCTGGCTGCTGTCGTCATCTGGCA
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Mammalia, Eutheria, Rodentia,
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Mus musculus MOR mRNA for mu AB047546
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Direct Submission
Submitted (12-U1-19:9) Neurology, Memorial Sloan-Kettering Cancer
Center, 1275 York Ave. New York, NY 10021, USA
Location/Qualifiers
                                                                                                                                                                                                               Mus musculus
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Bukaryota; Metazoa; Rodentia; Gciurognathi; Muridae; Musinae; Mus.
1 (bases 1 to 2045)
Pan, Y.-X., Xu, J., Chang, A., Mahurter, L. and Pasternak, G.W.
Identification and characterization of a novel mu opioid receptor splice variant (MOR-1BII)
Unpublished
2 (bases 1 to 2045)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67. .1296
/note="MOR-1BII; alternatively spliced variant of MOR-1
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          1099
                                      1183
          1052 GGATGGAGCGCAGAGCACTAGCAGTCCGAAATACAGTTCAGGATC
                                      1136 caarcdaacaccaaaacrcrccaarcccaaaacacraadaac
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BII mRNA,
                                                                                                             Mus musculus mu opioid receptor variant
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Organism="Mus musculus"

/mol type="mkNA"

/strain="CD-1"

/db xref="taxon:10090"

/chromosome="10"
                                                                                                                                                                                                  Mus musculus (house mouse)
                                                                                                                                                                     AF167567.1 GI:18026694
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Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
      TGCGTCTCAAGAGCGTCCGGCTCCTTTCTGGCTCCCGAGAAAGATCGCAACCTGCGTA
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6
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Pred. No. 1.9e-69;
0; Mismatches 329;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA
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Patent: WO 0177172-A 546 18-OCT-2001;
Arena Pharmaceuticals, Inc. (US)
Location/Qualifiers

    1182
/organism="Homo sapiens"
/mol_type="unassigned DNA"
/db_xref="taxon:9606"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1182 bp
Sequence 546 from Patent WO0177172.
AX280923
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66.18;
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Best Local Similarity 66.1
Matches 658; Conservative
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ORGANISM
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TITLE
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AX280923
LOCUS
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                                                                                                                                                                                                                                                   /gene="MOR"
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/db_xref="G1:15277134"
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                                                                                                                                                                                                                                                                                                                                                                    PWRTGLGGSHSLCPQTGSPSWTTTTTAAL/SIVCOTTEGENERALINEDSWGDFG
TWY IFFILALALAAATGTFPPGSWTTMGTWPFGNILCKIVISIDYYMMFTSIFTCMTA
MSVDRY IAVCHPVKALDPRTPRNAKIVWYMGTWPFGNILCKIVISIDYYMMFTSIFTLCT
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LITEMULVVVANFIVCWTPIHIYVIIKALITIPPTFFQTVSHHCTALGYTRSCLNPV
RITEMULVVVANFIVCWTPHIYVIIKALITIPPTFFQTVSHHCTALGYTRSCLNPV
BYAFLDBNFKRCFREFCIPTSSTIEQQNSARIRQNTREHPSTANTVDRTNHQLENLEA
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Saitama 351-0198, Japan (E-mail:ikedak@postman.riken.go.jp,
Tel:81-48-462-1111(ex.6436), Fax:81-48-467-9645)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              37.5%; Score 432.4; DB 10; Length 2137; 65.8%; Pred. No. 1.4e-69; ative 0; Mismatches 336; Indels 9;
                                                                         organism="Mus musculus"
/mol_type="mRNA"
/strain="CXB-7/By"
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/sex="male"
                                                                                                                                                                          tissue type="brain" . .2137
                                                                                                                                                                                                                /gene="MOR"
215. .1411
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                                                               Length 1203;
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                                                                 Score 431.6; DB 6;
Pred. No. 1.9e-69;
0; Mismatches 329;
db_xref="taxon:9606"
                                                               37.4%;
ilarity 66.1%;
Conservative
                                                                                         Similarity
                                                                                            Best Local Sim:
Matches 658;
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Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
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/wol_type="unassigned DNA"
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TRANGGER, B.L., Matthes, H.W., Simonin, F.H., Dierich, A. and Lemeur, M.
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Other publication FR 2750825 19980116.
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/protein_id="pak71884.1"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGPNRTDLGGRDSLCPPTGSPSMITAITIMALYSIVCVVGLFGNFLVMYVIVRYTKMK
TATNIYITIMALADALVYTSLPPQSYNYTMGTGSTETT
CTATNIYITIMALADALVYTSTLPPQSYNYTMGTGSTETT
CTATNYTDRAYACHPYRALDFRIPANAKIINYCOMILSSAIGLPVMFYSIFTL
CTLIFSHPSWYWENLLKICVFIPAFINAKIINYCOMILSSAIGLPVMFAATTKKRGSIN
CTLIFSHPSWYWENLLKICVFIPAFINAKIINTCYGLMILRIKSYRALSGSKEKDRN
PARITKWYLVVVANFIICWFPTHIYYIIKALVTIPETTLQTVSWHFCTALGYTNSCLN
PARITKMYLVVVANFIICWFPTHSNIIRQONTRIRQHPSTANIYUDRTNHQLENL
EAETAPLP
                                                                                                  AY038989 1399 bp mRNA linear PRI 15-JUL-2001
Macaca fascicularis mu-opioid receptor mRNA, complete cds.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCATGCCCTTTCAGAGTACGGTCTACTTGATGGAATTCCTGGCCTTTTGGGGATGTGCTGT 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCAAGATAGTAATTTCCATTGATTACTACAACATGTTCACCAGCATCTTCACCTTGACCA 451
                                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Cercopithecidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCGTGGGCTTGGTGGCCAACTCGCTGGTCATGTTCGTGATCATCCGATACACAAGATGA
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                                                                                                                                                                                                                                                                                                                                                                                       Miller,G.M. and Madras,B.K.
Direct Submission

Direct Submission

Direct Submission

Sombitted (07-470-2001) Neurochemistry, New England Primate Research Center, Harvard Medical School, One Pine Hill Drive, Southborough, MA 01772, USA

Location/Qualifiers
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Pred. No. 1.9e-69;
0; Mismatches 329; Indels 9;
                                                                                                                                                                                                                                                                              Cercopitheeinae; Macaca.

(bases 1 to 1399)

Miller,G.M. and Madrae,B.K.

Cloning of the Macaca fascicularis mu opioid receptor Unpublished
1076 ACATTGAGCAACAAAACTCCACTCGAATTCGTCAGA 1111
                                                                                                                                                                                                       Macaca fascicularis (crab-eating macaque)
Macaca fascicularis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .1399
/organism="Macaca fascicularis"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:9541"
                                                                                                                                          AY038989
AY038989.1 GI:14718771
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EXTAFLDENFKRCFREFCIPTSSTIEQQNSARIRQNTREHPSTANTVDRTNHQLENLEA
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/protein id="AAA86878.1"
/db_xref="GI:88585"
/translation="MDSSAGPGNISDCSDPLAPASWSPAPGSWLNLSHVDGNQSDPCG
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Submitted (04-JAN-1995) Christopher J Evans, Psychiatry and
Submitted (04-JAN-1995) Christopher J Evans, Psychiatry and
Biobehavioral Sciences, University of California at Los Angeles,
UCLA-NPI, 760 Westwood Plaza, Los Angeles, CA 90024-1759, USA
Location/Qualiflers
                                                                                                                                                                                                                                                GCTATTACTTCTGCATCGCCTTAGGCTATACCAACAGTAGCCTGAATCCCATTCTCTACG
                                       TCATCTTTGCCTTCGTGATCCCTGTCCTCATCATCGTCTGCTACACCCTGATGATCC
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د
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 430.8; DB 10;
Pred. No. 2.7e-69;
0; Mismatches 337;
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344 GGATCTCTTCATGAAGATCTGTGTTTGGTTTTGTGATCCCAGTCCTCATCAT 726 CATCGTCTGCTACACCTGATGATCTTCGTCTTTGTGATCCCAGTCCTCATCAT 726 CATCGTCTGCTACACCCTGATGATCTTCTGCTTTTGTGATCCCTCTTTTTGTGATCCTCATCATCATCATCATCATCATCATCATCATCATCA	Db 464 CCGAGAGAACCGAAATCTCCGCCGCATCACCAAGCTGGTGCTAGTTGCAGT 523 Qy 846 CTTCGTCGTCGTCGTCGAACTCCATTCACATTCTCTGGTGCAGCACCC 905	Qy 1026 GAGCTTCTGCTTTCCACTGAAGATGAGAGGGGAGGGAGGG	RESULT 98 AC103663 3 WPCOMMENT Sequence split into 4 fragments LOCUS AC103663 Accession AC103663 Fragment Name Begin 110000 AC103663 1 100001 210000 AC103663 2 200001 310000 AC103663 3 300001 368339 Continuation (4 of 4) of AC103663 from base 300001 (AC103663 Mus musculus clone RP23	Query Match 37.3%; Score 430.6; DB 2; Length 68339; Best Local Similarity 86.5%; Pred. No. 2.9e-69; 1 Indels 0; Gaps 0; Qy 606 GGAAGACGTCGATGACTGACTGCTTGCAGTTCCCAGATGACTACTCCTGGTG 665 Db 2423 GGAAGACGTCGATTGACTGCTTCCTTGCAGTTCTTGATTATTCTGGTG 2482 Qy 666 GGAACTCTTTATGAAGATTCTTGACTTTCTTTGCTTTGTGATGATATTCTGGTG 2482 Db 2483 GGATCTTTCATGAAGATCTGTCTTTGTCTTTGCCTTTGTGATCCTCATCAT 2542 Qy 726 CATCGTTGCTACAACACCTGATGATCTTGTCTTTGCCTTTGTGATCCTCATCATCATCATCATCATCATCATCATCATCATCA	QY 786 CCGAGAGAAAGATCGCAACTGGTAGGATCACGACTGGTCGTGGTGGCAGT 845 Db 2603 CCGAGAAAAGGACCGAAATCTCCGCCGCATCACCAAGCTGGTGGTGGTGCTGCAGT 2662 QY 846 CTTCGTCGTCGTCGTCGATCCCATTCACATATTCATCCTGGTGGAGGCTCTGGGAGCAC 905 Db 2663 CTTCATCATCTTGTGGACCCCATTCACATCTTTATCCTGGTGGAGGCTCTGGGAAGCAC 722 QY 906 CTCCCACAGCACAGCTGCTCTCCAGCTATTACTTCTGGTGGAGGCTCTAGGGAAGCAC 965 PIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
	RESULT 97 S7786833 LOCUS LOCUS DEFINITION Rappa opioid receptor [mice, Genomic, 1186 nt, segment 3 of 3]. DEFINITION S77872 VERSION S77872 NURS SCORE MUS SP. SCORE MUS SP. ORGANISM MUS SP. MUS SP. MUS SP. MUS SP. ORGANIA: SUtheria; Rodentia; Sciurognath; Murinae; Mus. Mammalia; Sutheria; Rodentia; Sciurognath; Murinae; Mus. AUTHORS Liu, H. C., Lu, S., Augustin, L. B., Felsheim, R. F., Chen, H. C., Loh, H. H.	and Wei, L.N. TITLE Cloning and promoter mapping of mouse kappa opioid receptor gene JOURNAL Blochem. Blophys. Res. Commun. 209 (2), 639-647 (1995) MEDLINE 9525163 PUBMED 7733933 REMARK GenBank staff at the National Library of Medicine created this REMARK GenBank staff at the National Library of Medicine created this entry (NCBI gibbsq 166539) from the original journal article. This sequence comes from Fig. 2. This sequence comes from Fig. 2. 1. 1186 //coganiam="Mus Sp." //mol type="qenomic DNA"	/db_Xref="taxon:10095" gene	/product="kappa opioid receptor" /product="kappa opioid receptor" /product="kappa opioid receptor" /db_xref="d1:9800620" /db_xref="d1:9800620" /db_xref="d1:9800620" /db_xref="d1:9800620" /db_xref="d1:9800620" /db_xref="d1:9800620" /db_xref="d1:9800420" /db_xref="d	Query Match Query Match Query Match Best Local Similarity 86.5%; Pred. No. 3e-69; Matches 475; Conservative 0; Mismatches 74; Indels 0; Gaps 0; Qy 666 GGAAGACGTCGATGTCCTTGCAGTTCCCAGATGATGATATCTCCTGGTG 665 Db 284 GGCAGATGTGATGTCATTGAGTCTTCTGCAGTTCCTGATGATGATATTCTTGGTG Qy 666 GGACCTCTTCATGAGTCTTCATCATTCTTCTTGATGATGATGATGTTGTTGTTGTTGTTGTTGTTGTTGT

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Sirran B. Nusbaum, C., Lander, E., Ali, A., Allen, N., Anderson, S., Barran B., Nusbaum, C., Lander, E., Ali, A., Allen, N., Anderson, S., Barran B., Nusbaum, C., Lander, E., Chang, J., Chazaro, B., Choepel, Y., Collymore, A., Cooki, S., Graham, L., Grand-Pietrer, N., Hagos, B., Arates, S., Cocki, S., Graham, L., Grand-Pietrer, N., Hagos, B., Horton, L., Hulme, W., Litev, I., Johnson, R., Jones, C., Kamat, A., Karatas, A., Kells, C., Landers, T., Lavine, R., Jones, C., Kamat, A., Mcarten, M., Machine, M., Marchews, C., Norman, C., McCarthy, M., Waldrin, J., Mender, L., Minch, R., Norbu, C., Norman, C. H., O'Comor, T., Ngurer, C., Nichi, D., Oliver, J., Peterson, K., Phunkhang, P., Pierre, N., Raymond, C., Retta, R., Riee, C., Rogow, P., Roman, J., Roy, A., Schauer, S., Schupback, R., Riee, C., Rogow, P., Roman, J., Roy, A., Schauer, S., Schupback, R., Stemer, S., Senger-Thomann, N., Stojanovic, N., Talamas, J., Yiel, R., Wilson, B., Wu, X., Waman, D., Young, G., Zainoun, J., Loster, S., Wilson, B., Wu, X., Waman, D., Young, G., Zainoun, J., Niels, R., Wilson, B., Wu, X., Waman, D., Young, G., Zainoun, J., Marcer, S., Arachori, H.M., Barna, N., Bastlen, V., Bloom, T., Boguslavkiy, L., Boukhgalter, B., Nusbaum, C., Lander, E., Abouellell, R., Allen, N., Anderson, S., Arachori, H.M., Barna, N., Bastlen, V., Bloom, T., Boguslavkiy, L., Boukhgalter, B., Contum, B., Wu, X., Wann, L., Grander, P., Marcher, M., Manning, T., Marcher, M., Malon, J., Hagopian, D., Hagos, S., Harder, M., Manning, T., Marcher, M., Malon, J., Hagopian, D., Hagos, M., Marcher, M., Manning, T., Marcher, S., Schupback, C., Cook, M., Cook, P., Cook, M., Cook, P., Cook, M., Cook, P., Willer, R., Warcher, R., Whove, T., Willow, T., Topham, Y., To
                                                                                                                                                                                                                                                    30001 388858 DNA linear HTG 27-MAR-2003 MLS musculus clone RP24-482A14, WORKING DRAFT SEQUENCE, 18 UNDAGGETED pieces.
                                                                                                                                                                                                                                                                                                                                                                                                  AC134788
AC134788 3 GI:29294221
HTG: HTGS PHASE1; HTGS_DRAFT.
Mus musculus (house mouse)
Mus musculus
Musraryotas (Mouseas)
Musculus
Musraryotas (Mouseas)
Musmalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 388858)
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                                                                                                                                           LOCUS AC134788 Accession AC134788
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AC134788_2
AC134788_3
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AUTHORS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   102423 GGCAGATGTGGGATGTCATTGAATGCTCCTTGCAGTTTCCTGATGATGATATTCCTGGTG 102482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   102603 CCGAGAGAAGGACCGAAATCTCCGCCGCATCACCAAGCTGGTGCTGGTAGTAGTTGCAGT 102662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 102663 CTTCATCATCTGTTGGACCCCCATTCACATCTTTATCCTGGTGGAGGCTCTGGGAAGCAC 102722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGCAGCCTGAATCCTGTTCTCTATGCCTTTCTGGATGAAACTTCAAGCGGTGTTTTAG 102842
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                                                                                                                                                                                                                                                                                         1086 TACAGTTCAGGATCCTGCTTACCTGAGGGACATCGATGAGTGAATAAACCAGTATGACT 1145
                                                                                                                                                                                                                                                                                                                                      2903 CACAGITICAGGATCCTGCTTCCATGAGAGATGTGGGAGGGATGAATAAGCCAGTATGACT 2962
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                                                                                                               2783 CAGCAĞCCIGAAICCIGITICICIAIGCCTITICIGGAIGAAACITICAAGCGGIGITITIAG 2842
                                                                                                                                                                         GGACTTCTGCTTTCCACTGAAGATGAGGATGGAGCGGCAGAGCACTAGCAGAGTCCGAAA 1085
                                                                                                                                                                                                                               2843 GGACTTCTGCTTCCCTATTAAGATGCGAATGGAGCGCCAGAGCACCAATAGAGTTAGAAA 2902
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2723 CTCCCACAGCACAGCTGCCCTCTCCAGCTATTATTTCTGTATTGCCTTGGGTTATACCAA 2782
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Pred. No. 2.9e-69;
0; Mismatches 74; Indels
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200001
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Best Local Similarity 86.5%;
Matches 475; Conservative (
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Center: whitehead Institute/ NIT Center for Genome Research

Center: project name 12736

Center: project name 12737

Consensus quality: 386543 bases at least Q20

Consensus quality: 386543 bases at least Q2

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99016 CATIGICECTACACCCTGATGATCCTGCGCCTGAAGAGTGTCCGGCTCCTGTCTGGCTC 99075
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99136 CTTCATCATCTGTTGGACCCCCATTCACATCTTATCCTGGAGGCTCTGGGAAGCAC 99195
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Location/Qualifiers

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Search completed: August 31, 2004, 03:47:34 Job time : 4893 secs

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5 PCT-US94-10358-16
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1. /cgn2_6/ptodata/2/ina/5A_COMB.seq:*

2. /cgn2_6/ptodata/2/ina/5B_COMB.seq:*

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                      GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.
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